(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 September 2002 (12.09.2002)

PCT

(10) International Publication Number
WO 02/071297 A1

(51) International Patent Classification[7]: G06F 17/60

(21) International Application Number: PCT/KR02/00406

(22) International Filing Date: 8 March 2002 (08.03.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2001/12117	8 March 2001 (08.03.2001)	KR
2001/53959	3 September 2001 (03.09.2001)	KR
2002/3317	21 January 2002 (21.01.2002)	KR

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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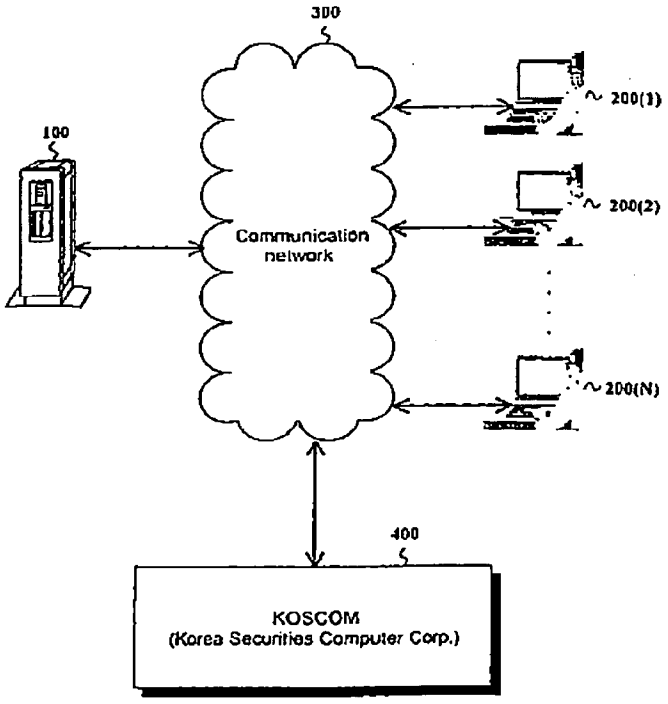
(54) Title: CYBER TRADING SERVICE DEVICE AND METHOD FOR ANALYZING BUY QUANTITY



(57) Abstract: Disclosed is a cyber trading service method for providing a cyber trading service according to requests by a plurality of client PCs. When a user selects a buy order screen through a cyber trading system in the client PC, a cyber trading system transmits stock price information to the corresponding client PC. The cyber trading system receives a user's account number from the client PC, inputs an amount of previously deposited money to a previously established calculation program to calculate a buy price list, outputs calculation results to the corresponding client PC, receives the user's issue code and buy price from the client PC, inputs the corresponding issue's standard price and buy price to the previously established calculation program to calculate a quantity list, and outputs calculation results to the corresponding client PC. Therefore, the present invention reduces the transaction ordering steps according to selection by the user.

WO 02/071297 A1

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Cyber Trading Service Device and Method for Analyzing Buy Quantity

BACKGROUND OF THE INVENTION

(a) Field of the Invention

The present invention relates to a cyber trading device and method having a buy quantity analysis function. More specifically, the present invention relates to a cyber trading device and method having a buy quantity analysis function for enabling an investor to automatically receive buy price volume and buy quantity results without performing any calculation in the stage of buying stocks, and to easily input a buy order.

(b) Description of the Related Art

In stock trading, on-line cyber trading has greatly increased as communication technologies and computation programs have developed. In Korea, over 80% of traders already do daily trading, and this kind of cyber trading is also expected to gradually increase in foreign countries.

Cyber trading will continue to increase since it has many merits such as easy access through a use of a personal computer, provision of various categories of stock information, real-time reference of stock quotations, and quick buy and sell orders. Accordingly, frequencies of buying and selling the stocks have greatly increased, which is caused by synchronization of world-wide stock markets, increase of daily trading, and convenience of buy and sell orders using a computer.

Stock buying and selling has a sequential cycle of: stock price analysis --> buy order --> stock price analysis --> profit and loss analysis -->

sell order. The buy stage in more detail has: analysis of stock prices (rise and fall rates of stock prices, and ups and downs widths of stock prices) --> determination of buy price volume --> determination of buy prices --> calculation of buy volume --> inputting of buy order --> buy conclusion.

When a number of stocks to buy and sell increases, an investor needs to repeat the above-noted buy stages frequently, and accordingly, calculation amounts and input tasks of buy orders increase.

However, in spite of changes of stock trading environments that require much increased frequencies of buying and selling and many order inputting tasks, conventional cyber trading systems lack information that is provided to the investors in the buy stage, and hence, the investors daily and personally execute various kinds of computations, and have trouble in inputting the orders since the ordering process is performed manually. As a result, the investors spend much more time than required, exhaust mental energies, incorrectly calculate stock prices and corresponding quantities, and manually issue buy and sell orders. Also, because of the same reasons, the conventional systems fail to guarantee quick cyber trading.

Conventional problems in each stage of stock buy are as follows:

1) Stock price analysis stage: Price information lists are not provided to the investors. Conventional cyber trading does not provide price lists at the time of simultaneous bids and offers, and displays 10 quotations within a disclosure range when the market is open. Also, the conventional cyber trading does not provide advance-decline ratios (ADR) and advance-decline depth at the time of simultaneous bids and offers, and it only provides a

single ADR and an advance-decline depth with respect to the current price when the market is open. Therefore, the investor needs to calculate the stock prices such as the ADR and advance-decline depth by himself, and since he can only calculate a single stock price at one time, he cannot wholly determine the stock prices.

2) Buy price determination stage: The investor synthetically checks to what ADR and advance-decline depth the buy price selected corresponds, and determines an adequate buy price. However, since the investor cannot know the entire stock price lists, the ADR, and the advance-decline depth, he fails to synthetically determine the stock prices.

3) Buy money and buy quantity calculation stage: The conventional cyber trading does not provide a calculation service of how much or what percent of entrusted money in a stock account the investor will use to buy desired stocks, or a systematic calculation service for calculating the buy quantity according to the buy money and buy price. Therefore, in the case of a diversified investment to multiple issues, the investor needs to split previously deposited money, calculate the quantity by dividing the buy money by buy price, and recalculate the above-noted calculations when the buy money or buy price is changed.

4) Buy order stage: The inputting process of buy price and buy quantity in the conventional buy order is manually executed by the investor using a mouse and a keyboard, which causes inaccuracy and burden. This stage is also problematic in that the investor may mistakenly input the buy price and buy quantity as incorrect numbers, it may need dozens of

manipulations of the mouse and the keyboard, and it may require an inputting time of greater than 10 seconds. The investor may need to check whether the inputting process is correct, and they may not achieve correct buy information generated by the input values, so the economic and mental loss and cost of inputting the orders hundreds of times each day may consequently increase. Further, since the investor uses the identical inputting process for buy-order correcting orders and buy-order canceling orders, the same problems can be generated.

5) Profit and loss analysis stage: After inputting the buy price and buy quantity, the investor cannot previously estimate before buying the stocks how much he will gain or lose with respect to respective stock values when the actual transaction is performed. The investor can only know the profit and loss results after buying the stocks, and cannot simulate the profit and loss using the buy price and quantity before buying the stocks. Therefore, since the conventional method does not have the concept of before-buy profit and loss for each stock, the investor cannot determine the after-buy profit and loss for respective stocks in advance.

As a result, the investor suffers inconvenience and inaccuracy in the above-described respective stages, many times.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a cyber trading service device and method having a buy quantity analysis function for

performing stages of 1) stock price analysis, 2) buy price analysis, 3) buy quantity analysis, 4) buy ordering, and 5) profit and loss analysis, according to an investor's selection, through one or two clicks of a mouse in one to three seconds.

In one aspect of the present invention, a cyber trading service device for providing cyber trading services according to requests by a plurality of client PCs (personal computers), comprises: a main controller for calculating a buy price list when a buy price calculation request is received from a corresponding client PC, and calculating a quantity list and outputting calculation results data when a calculation request signal on the quantity list is received; and a quantity list calculator for dividing a previously deposited money amount by percent (%) to calculate the buy price list when the amount of previously deposited money is received through the main controller, and calculating the quantity list that is buy information for respective stock prices from the corresponding issue's standard price and buy price and outputting corresponding calculation results to the corresponding client PC when the user's issue code and buy price are input.

In another aspect of the present invention, a cyber trading service device for receiving stock information from a securities corporation's server and providing the cyber trading service comprises: a quantity calculation program storage unit for calculating a quantity list using a corresponding issue's standard price and buy price; a CPU for controlling to load a corresponding program in the quantity calculation program storage unit to an

inner main memory, execute it, and output calculation results of the quantity list; and a display for displaying the calculation results output by the CPU, to a user.

In still another aspect of the present invention, a cyber trading service method for providing the cyber trading service according to requests by a plurality of client PCs, comprises: transmitting stock price information to a corresponding client PC when a user selects a predetermined issue on a buy order screen through a cyber trading system in the client PC; receiving the user's account number from the client PC, inputting the amount of previously deposited money to a previously established calculation program to calculate a buy price list, and outputting calculation results to the corresponding client PC; and receiving the user's issue code and buy price from the client PC, and inputting the corresponding issue's standard price and buy price to the previously established calculation program to calculate a quantity list, and outputting calculation results to the corresponding client PC.

In further another aspect of the present invention, a cyber trading service method for receiving stock information from a securities corporation's server and providing the cyber trading service, comprises: (a) a CPU displaying stock price information on a buy order screen when a user logs in to a cyber trading system in a client PC; (b) the CPU receiving previously deposited money information from the securities corporation's server when the user selects a buy price calculation on the buy order screen, using a corresponding calculation program to calculate a buy price list, and

displaying the buy price list in a buy price list window; (c) the CPU using a corresponding calculation program to calculate the buy quantity corresponding to a stock price list and a stock price, and displaying it in a quantity list window when the user selects a predetermined price in the buy price list window; (d) the CPU setting a selected stock price to be a buy price, the corresponding quantity to be a buy quantity, and automatically and concurrently inputting them in a buy order blank when the user selects a predetermined stock price in the quantity list window; and (e) the CPU using a corresponding calculation program to calculate the profit and loss analysis for each stock price and displaying the same in the quantity list window when the user selects a predetermined stock price in the quantity list window.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an embodiment of the invention, and, together with the description, serve to explain the principles of the invention:

FIG. 1 shows a configuration block diagram of a cyber trading service device according to a first preferred embodiment of the present invention;

FIG. 2 shows a configuration of a quantity analysis system of a cyber trading system according to the first preferred embodiment of the present invention;

FIG. 3 shows a detailed configuration of a quantity calculation program database of the quantity analysis system according to the first preferred embodiment of the present invention;

FIG. 4 shows a configuration of a cyber trading system in a client PC (personal computer) of the cyber trading service device according to a preferred embodiment of the present invention;

FIG. 5 shows a buy order screen of the cyber trading system in the client PC according to the first preferred embodiment of the present invention;

FIGs. 6(a) to 8(c) show an operation flowchart of a cyber trading service method according to the preferred embodiment of the present invention;

FIG. 9 shows a configuration block diagram of a cyber trading service device according to a second preferred embodiment of the present invention;

FIG. 10 shows a cyber trading system in the client PC according to the second preferred embodiment of the present invention;

FIG. 11 shows a detailed block diagram of a quantity calculation program storage unit of FIG. 10;

FIGs. 12(a) to 15 show an operation flowchart of the cyber trading service device according to the second preferred embodiment of the present invention;

FIG. 16 shows an exemplified buy price list calculated by the cyber trading system;

FIGs. 17(a) to 17(k) show an exemplified quantity list calculated by the cyber trading system;

FIG. 18 shows an exemplified buy order screen according to the preferred embodiment of the present invention, showing a buy price list, a quantity list, and a buy order input window; and

FIG. 19 shows a comparison between a conventional buy order method and an improved buy order method according to the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following detailed description, only the preferred embodiment of the invention has been shown and described, simply by way of illustration of the best mode contemplated by the inventor(s) of carrying out the invention. As will be realized, the invention is capable of modification in various obvious respects, all without departing from the invention. Accordingly, the drawings and description are to be regarded as illustrative in nature, and not restrictive.

FIG. 1 shows a configuration block diagram of a cyber trading service device according to a first preferred embodiment of the present invention.

As shown, the cyber trading service device comprises: a plurality of client PCs 200(1) to 200(N); a communication network 300; and a quantity analysis system 100.

A securities corporation installs an exclusive-use emulator or a web browser for cyber trading in the client PCs 200(1) to 200(N) through the communication network 300 or a compact disk (CD). When the exclusive-use emulator or the web browser is executed, the client PCs 200(1) to 200(N) are connected to the quantity analysis system 100, and when each user selects a quantity calculation button on a buy order screen, an issue code and a buy price are output to the quantity analysis system 100 through the communication network 300. The client PCs receive a quantity list from the quantity analysis system 100, and it is displayed on a buy order screen on the client PC 200.

The communication network 300 connects communication cables between the client PCs 200(1) to 200(N) and the quantity analysis system 100 of each securities corporation so as to transmit and receive data of a quantity list. When an issue code and a buy price are input through the buy order screen of each client PC according to each user's quantity calculation selection, the quantity analysis system 100 inputs a basic value and the buy price to a previously established calculation program to calculate the quantity list, and outputs the calculation results to the corresponding client PC.

FIG. 2 shows a configuration of the quantity analysis system 100 of the cyber trading system according to the first preferred embodiment of the present invention.

Referring to FIG. 2, the quantity analysis system 100 comprises: a main controller 110; a communication controller 120; a client information database 130; an account information database 140; a stock price

information database 150; a management program input unit 160; a quantity calculation program database 170; and a quantity list calculator 180.

The communication controller 120 performs wire and wireless communication related to quantity lists between the client PC 200(1) to 200(N) and the quantity analysis system 100. When an account number, an issue code, and a buying price according to each user's selection of quantity calculation are input, the communication controller 120 receives data and transmits the data to the main controller 110, and outputs a quantity list to the corresponding clients PC(200(1), ..., 200(N)) through the communication network 300 according to control by the main controller 110. The main controller 110 determines whether the account number, the issue code, and the buying price according to each client PC user's selection of quantity calculation are input on the basis of a management program input through the management program input unit 160.

Also, the main controller 110 uses corresponding programs of the quantity calculation program database 170, the account information database 140, and the corresponding data of the stock price information database 150, each input through the management program input unit 160, to drive the quantity list calculator 180 to calculate the quantity list and control to output calculation data. The client information database 130 provides the main controller 110 with data needed for determining registered user states at the time of logging in. The account information database 140 for storing information on the user's previously deposited money provides an

available buying price to the quantity list calculator 180. The stock price information database 150 transmits the standard price of the corresponding item to the quantity list calculator 180.

The management program input unit 160 inputs various management programs and a quantity list calculation program related to the cyber stock trading used at the main controller 110 by a manager of the quantity analysis system 100. A calculation program of the quantity calculation program database 170 is transmitted to the quantity list calculator 180 according to instructions by the main controller 110. Various calculation programs of the quantity calculation program database 170 have built-in commission rates and break-even point rates, and a process for receiving other parameters (e.g., a standard price and a buying price) and calculating them will be described below. The quantity list calculator 180 uses calculation programs and input parameters to perform calculation according to control by the main controller 110. In the calculations, the corresponding calculation program of the quantity calculation program database 170 input by the management program input unit 160, the buying price, and the standard price of the corresponding item input by the stock price information database 150 are used to calculate the quantity list, and the calculation results are transmitted to the main controller 110.

FIG. 3 shows a block diagram of the quantity calculation program database 170 of the quantity analysis system 100 according to the first preferred embodiment of the present invention. The quantity calculation program database 170 of the quantity analysis system 100 comprises a buy

price calculation program 170a and a quantity calculation program 170b, and additional units may be added, removed, or modified if needed.

Operations of the respective calculation programs of the quantity calculation program database 170 are as follows. The buy price calculation program 170a of the quantity calculation program database 170 calculates a volume list of the buy price using the amount of previously deposited money (buying money) of account information, outputs a percent list having a range from 1 to 100%, and multiplies the buying money by the percent to output a buy money list for the respective percents (In the case the buying money is 7,500,000 Won, the buy price becomes 7,500,000, 7,425,000, 7,350,000, ..., 150,000, 75,000 Won).

The quantity calculation program 170b calculates a buyable quantity for each stock price, and other information (commission, commission rates, break-even points, and break-even differences) according to a stock price list (including ADR and advance-decline depth) to which nominal prices from the highest limit to the lowest limit of corresponding issues are applied, by using the input items including the standard prices of the corresponding issues and the buy prices. The calculation process includes 1) calculating the highest limit price and the lowest limit price with reference to the standard price of the corresponding issue, and applying the nominal prices from the highest to lowest limit prices to produce a stock price list, 2) dividing the respective stock prices of the stock price list by the standard price to produce the ADR, 3) subtracting the standard price from the respective stock prices of the stock price list to produce the advance-decline depth, 4) dividing the buy prices by

the respective stock prices to calculate the buyable quantity, 5) multiplying the stock price by the buy quantity to produce the actual buy price, 6) multiplying the actual buy price by the commission rate, and adding a default commission to the multiplied results to produce the commission, 7) dividing the commission by the actual buy price to produce the commission rate, 8) multiplying the stock price by the break even point rate to produce the break even point, and 9) subtracting the stock price from the break even point to produce the break-even difference. In the case of nations where stock prices have no highest and lowest limit prices, the stock price list is produced with reference to values (e.g., ±20.0%, -10.0 ~ +30.0%) set by the user.

FIG. 4 shows a cyber trading system 200 in a client PC in a cyber trading service device according to the preferred embodiment of the present invention.

Referring to FIG. 4, the cyber trading system 200 in the client PC comprises a central processing unit (CPU) 210; a communicator 220; a cyber trading program storage unit 230; and a buy order screen 240.

The communicator 220 performs wire and wireless communication, related to production of a quantity list, between the client PCs 200(1) to 200(N) and the quantity analysis system 100. The communicator 220 outputs an account number, an issue code, and a buy price resulting from each user's selecting the quantity calculation button of the quantity analysis system 100, and receives the quantity list from the quantity analysis system 100.

The CPU 210 controls to output the account number, the issue code,

and the buy price according to the user's selection of the quantity calculation button. Also, the CPU 210 displays the quantity list data input by the quantity analysis system 100 through the communicator 220, in a quantity list window.

The cyber trading program storage unit 230 stores a cyber-trading-only emulator program, automatically downloaded from the quantity analysis system 100 after log-in.

The buy order screen 240 displays a quantity list according to control by the CPU 210, and outputs the buy quantity and buy unit-cost data input by the user for buying desired stocks to the quantity analysis system 100.

FIG. 5 shows an exemplified buy order screen 240 of the cyber trading system 200 in the client PC according to the first preferred embodiment of the present invention.

The buy order screen 240 of the cyber trading system 200 comprises: a buy price calculation button 240a; a buy price list window 240b; a buy price input blank 240c; a quantity calculation button 240d; a quantity list window 240e; a buy quantity input blank 240f; a buy unit-cost input blank 240g; and a nominal price information window 240h.

In this instance, the buy price calculation button 240a of the buy order screen 240 enables division of the amount of previously deposited money of the user's stock account into 100 1% units to calculate the same. The buy price list window 240b displays the list of the amount of previously deposited money divided into 100 1% units. The buy price input blank 240c receives corresponding values when the user directly inputs the buy price

through a keyboard or selects a predetermined value of the buy price list window 240b. The quantity calculation button 240d is an instruction button for calculating the buyable quantity for each stock with reference to the price of the buy price input blank 240c. The quantity list window 240e displays the quantity list for each stock calculated according to the instruction by the quantity calculation button 240d. When the user selects a predetermined row in the quantity list window 240e, the buy quantity input blank 240f and the buy unit-cost input blank 240g automatically and concurrently receive the row's stock price and quantity. The nominal price information window 240h displays stock price information including the corresponding issue's standard price, nominal price, and buy and sell quantity for each nominal price.

With reference to the drawings, an operation of the cyber trading service device and method according to the first preferred embodiment of the present invention will now be described in detail.

FIGs. 6(a) to 8(c) show flowcharts for the cyber trading service method according to the preferred embodiment of the present invention.

As shown, when the user executes a cyber-trading-only emulator or a web browser in the client PC 200(1), the client PC 200(1) accesses the quantity analysis system 100 of each securities corporation through the communication network 300 in step S1.

After accessing the quantity analysis system 100, the client PC 200(1) displays a log-in screen output by the quantity analysis system 100 in step S2.

The client PC 200(1) outputs the ID and the password input by the user to the quantity analysis system 100, and the main controller 110 of the quantity analysis system 100 determines whether the ID and the password are matched with the data registered to the client information database 130. When the user is found to be a registered user after said determination, the main controller 110 outputs a main screen in step S3.

After this, when the user selects the buy order screen 240 and inputs (or selects) an issue number of a desired stock (including stocks, futures, and options) to the client PC 200(1), the CPU 210 periodically receives information on the prices (including standard prices, nominal prices, sell/buy prices, etc.) of the issues from the quantity analysis system 100, and displays it on the nominal price information window 240h in step S4.

The above steps S1 to S4 correspond to a conventional cyber trading method.

Under this status, the CPU 210 determines whether the user directly inputs the buy price to the buy price input blank 240c through the keyboard or selects the buy price calculation button 240a in step S5. When it is found that the user directly inputs the buy price to the buy price input blank 240c, the CPU 210 receives the input buy price in step S6.

Referring to FIGs. 7(a) and 7(b), when the user selects the buy price calculation button 240a so as to know the list of the amount of previously deposited money and the buy price of divided amount of previously deposited money in step S7, the CPU 210 outputs a buy price calculating key signal and the user's account number data to the quantity analysis

system 100 in step S8a.

The main controller 110 of the quantity analysis system 100 determines whether the buy price calculating key signal and the user's account number data are input from the client PC 200(1) through the communication controller 120 in step S8b.

When the key signal is found to be input at the time of calculating the buy price after the determination, the main controller 110 transmits the buy price calculation program 170a of the quantity calculation program database 170 to the quantity list calculator 180 in step S8c, transmits the amount of previously deposited money of the account information database 140 to the quantity list calculator 180 in step S8d, and instructs the quantity list calculator 180 to execute a corresponding calculation in step S8e.

Next, the quantity list calculator 180 inputs the amount of previously deposited money to the buy price calculation program 170a according to the calculation instruction from the main controller 110 in step S8f, and divides the amount of previously deposited money into units of from 100 to 1% in 1% graduations in step S8g. (That is, the amount of the previously deposited money is multiplied by 100%, 99%, 98%, ..., 3%, 2%, 1% to produce the volume of the buy price per percent.) The division units may be variously applied according to the values (e.g., 1% graduations, 2% graduations, ranges of between 20 and 50%, or between 30 and 100%) set by the user, or the amount of the previously deposited money may be redefined per 1,000/10,000 Won.

The quantity list calculator 180 transmits a calculation completion signal and calculated buy price list data to the main controller 110 in step S8h.

When receiving the calculation completion signal and the buy price list from the quantity list calculator 180 in step S8i, the main controller 110 outputs the buy price list data to the client PC 200(1) through the communication controller 120 in step S8j.

When the buy price list data are input to the client PC 200(1) from the quantity analysis system 100 in step S8k, the CPU 210 of the client PC displays the input buy price list data to the buy price list window 240b of the buy order screen 240 in step S8l.

Next, when the user synthetically handles the percentages and the buy prices per percent of the buy price list window 240b to determine the buy price, (or to complete making a volume decision), and selects a predetermined line (a row, percent, and buy price) of the buy price list window so as to input the determined buy price in step S9, the CPU 210 inputs the selected buy price to the buy price input blank 240c, and highlights the corresponding line in step S10.

Here, the user can modify the buy price of the buy price input blank 240c to other values using a spin button or a keyboard.

Next, referring to FIGs. 8(a) to 8(c), when the user selects the quantity calculation button 240d of the buy order screen 240 in step S11, the CPU 210 outputs a quantity calculating key signal, an issue code, and buy price data of the buy price input blank 240c to the quantity analysis system

100 in step S12a.

The main controller 110 of the quantity analysis system 100 determines whether a quantity calculating key signal, an issue code, and buy price data are input from the client PC 200(1) through the communication controller 110 in step S12b.

When the quantity calculating key signal is input after the determination, the main controller 110 transmits the quantity calculation program 170b of the quantity calculation program database 170 to the quantity list calculator 180 in step S12c, transmits the standard price of the corresponding issue of the quantity calculation program 170b to the quantity list calculator 180 in step S12d, transmits the buy price input from the client PC to the quantity list calculator 180 in step S12e, and instructs the quantity list calculator 180 to execute the corresponding calculation in step S12f.

Next, the quantity list calculator 180 inputs the standard price and the buy price to the quantity calculation program 170b according to the calculation instruction from the main controller 110 in step S12g, calculates the highest and lowest limit values using the corresponding issue's standard price in step S12h, and calculates a stock price list by applying the nominal prices from the highest limit value to the lowest limit value in step S12i. Next, the quantity list calculator 180 divides the respective stock prices of the stock price list produced in the previous step S12i by the standard price to calculate the ADR list for the respective stock prices in step S12j, subtracts the standard price from the respective stock prices of the stock price list to calculate a per-stock advance-decline depth list in step S12k, and divides the

buy price input from the client PC by the respective stock prices of the stock price list to calculate the buyable quantity for each stock price in step S12l.

Next, the quantity list calculator 180 multiplies the buyable quantity by the stock price of the stock price list to calculate the actual buy price for each stock price in step S12m, multiplies the actual buy price by the commission rate according to the volume of transaction money, adds the default commission to the multiplied value to calculate the commission for each stock price in step S12n, divides the commission by the actual buy price to calculate the commission rate in step S12o, multiplies the stock price by the break-even point rate to calculate the break-even point for each stock price in step S12p, and subtracts the stock price from the break-even point to produce the break-even difference for each stock price in step S12q, and thence the calculation is completed.

When the calculation is completed, the quantity list calculator 180 transmits a calculation completion signal and quantity list data (including the stock prices, ADRs, advance-decline depths, actual buy prices, commission (rates), and break-even point (break-even difference) lists) to the main controller 110 in step S12r.

When receiving the calculation completion signal and the quantity list data from the quantity list calculator 180 in step S12s, the main controller 110 outputs the quantity list data to the client PC 200(1) through the communication controller 120 in step S12t.

When the quantity list data are input to the client PC 200(1) from the quantity analysis system 100 in step S12u, the CPU 210 of the client PC

200(1) displays the input quantity list data to the quantity list window 240e of the buy order screen 240 in step S12v.

Next, a process for the user to synthetically analyze the stock prices, ADRs, and advance-decline depths; select a desired buy price; and input a buy order while the stock price and the buy quantity are displayed in the quantity list window 240e will be described.

The CPU 210 determines whether the user selects (or clicks twice) a predetermined row of the quantity list window 240e so as to input a buy order in step S13.

When the user is found to select the predetermined row of the quantity list window 240e after the determination, the CPU 210 automatically inputs the stock price of the row selected by the user in the input blank 240g, and automatically inputs the quantity of the row selected by the user in the buy quantity input blank 240f at the same time in step S15. Accordingly, by the user's selecting the predetermined row using a mouse, the buy unit-cost and the buy quantity needed for the buy order are concurrently and automatically input.

The CPU 210 highlights the selected row in the quantity list window 240e and the corresponding stock price in the nominal price information window 240h in step S16 (so that the user may easily and visually find the buy price and the position where the quantity is displayed.)

Next, when the user selects a buy order transfer button according to the user's final confirmation and determination, the CPU 210 outputs an

account number, a transaction password, an issue code, a buy unit cost in the buy unit cost input blank 240g, and buy quantity data in the buy quantity input blank 240f to the quantity analysis system 100 in step S17. Accordingly, the quantity analysis system 100 transmits them to the KOSCOM 400 and outputs transaction conclusion results to the client PC.

A case when the user cancels or amends the input order will now be described. After the buy order is input, when the user selects an order cancel instruction of the right button of the mouse positioned on the row corresponding to the highlighted buy price in the quantity list window 240e or the nominal price information window 240h in step S18, the CPU 210 cancels the buy order matched with the corresponding price in step S19.

Also, when the user drags the row matched with the highlighted buy price in the quantity list window 240e or the nominal price information window 240h to a different price or selects a new price in step S20, the CPU 210 automatically inputs the selected price in the buy unit-cost input blank 240g, and when the user selects an order correction instruction, it sets the newly selected price as a correction price, and performs a buy correction order in step S21.

Accordingly, the user can correctly, quickly, and easily provide a buy order while viewing the buy unit cost and buy quantity information, thereby having a more advantageous investment environment.

A second preferred embodiment for enabling the client PC's cyber trading system to calculate the quantity list by marginally modifying the first preferred embodiment for calculating the quantity list by a securities

corporation's quantity analysis system 100 will now be described.

In the second preferred embodiment, the client's PC's cyber trading system and not the securities corporations' quantity analysis system 100 calculates all of the quantity lists.

FIG. 9 shows a configuration of the quantity analysis system 100 according to the second preferred embodiment of the present invention. FIG. 9 corresponds to a system for providing information on the accounts and stock prices generally used by the securities corporations.

Referring to FIG. 9, the quantity analysis system 100 comprises a main controller 110; a communication controller 120; a client information database 130; an account information database 140; and a stock price information database 150.

The communication controller 120 of the quantity analysis system 100 performs wire and wireless communication related to the information on the clients, dealing with accounts and stock prices, between the client PCs 200(1) to 200(N) and the quantity analysis system 100. The communication controller 120 outputs the user's account information (the previously deposited money amount) and stock price information (the standard price) data to the corresponding client PCs 200(1) to 200(N) through the communication network 300. The main controller 110 controls information on the account of the stock price to output to the corresponding client PC. The client database 130 provides data needed for determining registered user states at the time of logging in. The account information database 140

provides the user's previously deposited money data. The stock price information database 150 stores stock price information including the corresponding issues' standard prices, current prices, nominal prices, buy and sell quantities for each nominal price, transaction volumes, highest and lowest limit values respectively input from the KOSCOM 400, and provides it to the client PC.

FIG. 10 shows a configuration of a cyber trading system 200 in the client PC according to the second preferred embodiment of the present invention.

The cyber trading system 200 in the client PC comprises a CPU 210; a communicator 220; a quantity calculation program storage unit 230; and a buy order screen 240.

The communicator 220 performs wire and wireless communication related to information on the accounts and stock prices between the client PC and the quantity analysis system 100. The communicator 220 receives previously deposited money data according to the user's referring to the amount of previously deposited money, and a corresponding issue's stock price information, and transmits them to the CPU 210. The CPU 210 1) controls to request and receive account information from the quantity analysis system 100, 2) displays stock price information, 3) calculates the buy price and the quantity list according to the user's request of calculating the buy price and the quantity list, 4) displays the buy price and quantity list data, and 5) executes a buy order. The quantity calculation program storage

unit 230 stores various programs for calculating the buy price, the quantity list and the profit and loss analysis automatically downloaded from the quantity analysis system 100 after log-in. The programs are not varied as long as the nominal price units, the depth of the highest and lowest limits, and the commission rates are not changed. Hence, once they are downloaded in the initial step, they do not need to be downloaded each accessing time. The buy order screen 240 displays the corresponding issue's stock price information, the buy price list and the quantity list information according to control by the CPU 210, and outputs the buy quantity and buy unit cost data input by the user to buy desired stocks, to the quantity analysis system 100.

FIG. 11 shows a configuration of the quantity calculation program storage unit 230 according to the second preferred embodiment of the present invention. The programs in the quantity calculation program storage unit 230 comprise: a buy price calculation program 230a; a quantity calculation program 230b; and a profit and loss analysis program 230c. The operation of the buy price calculation program 230a and the quantity calculation program 230b is identical with that of the buy price calculation program 170a and the quantity calculation program 170b, and therefore no operation of the corresponding programs will be described.

The profit and loss analysis program 230c analyzes various kinds of profit and loss, assuming that the quantity of the buy quantity input blank 240f is set to be a quantity, the stock price of the buy unit cost input blank 240g is set to be a buy price, and the stock price of the stock price list is set

to be a sell price. The process of analyzing the profit and loss includes 1) dividing the stock price of the stock price list by the buy price to calculate an earning rate for each stock price, 2) subtracting the buy unit price from the stock price to calculate a profit and loss degree, and 3) multiplying the profit and loss degree by the quantity to calculate a total profit and loss. Further, the profit and loss analysis program 230c may include calculations of: the commission for each stock price (i.e., (buy price + sell price) x commission rate); the commission rate (i.e., commission / (buy price + sell price)); the net profit or loss (i.e., total profit or loss – commission); the net profit or loss rate for each stock price (i.e., (total profit or loss – commission) / total buy price); the total sell price (i.e., stock price x quantity); and the total sell rate (i.e., total sell price / total buy price). The profit and loss analysis method can calculate the profit and loss for each stock price after the user selects the buy unit cost and the buy quantity.

A process for the cyber trading service device to calculate a buy price list, a quantity list, and a profit and loss analysis according to the second preferred embodiment of the present invention will now be described.

Referring to FIG. 12(a), a client PC 200(1) accesses each securities corporation's quantity analysis system 100 through the communication network 300 in step T1. The client PC displays a log-in screen and outputs an ID and a password to the quantity analysis system 100 in step T2. In the case the user is a registered one, the quantity analysis system 100 outputs the most recent cyber trading program and the CPU 210 stores the

downloaded quantity calculation program in the quantity calculation program storage unit 230 in step T3.

When the user selects the buy order screen 240 on the client PC 200(1), the CPU 210 displays the buy order screen 240, and when the user inputs (or selects) an issue code, the CPU 210 periodically receives stock price information from the stock price information database 150 of the quantity analysis system 100 and displays it in the nominal price information window 240h in step T4. The steps of T1 to T4 are well known to skilled persons and accordingly no further corresponding description will be provided.

Next, a process for calculating the buy price list and the quantity list through the cyber trading system of the client PC 200(1) will be described.

Referring to FIG. 12(b), under this state, the CPU 210 determines whether the user directly inputs the buy price in the buy price input blank 240c through a keyboard or selects the buy price calculation button 240a in step T5. When it is found from the determination that the user directly inputs the buy price in the buy price input blank 240c, the CPU 210 receives the input price in step T6.

Referring to FIG. 13, when it is found that the user selects the buy price calculation button 240a in step T7, the CPU 210 outputs user account number data to the quantity analysis system 100 in step T8a. When a request for account information (or amount of previously deposited money) is input, the quantity analysis system 100 outputs the user's previously deposited money data of the account information database 140 to the client

PC 200(1) in step T8c. The options of directly inputting the buy price through a keyboard or selecting the buy price calculation button are provided for improving the user's convenience.

Next, when account reference (or previously deposited money) data are input to the client PC 200(1) from the quantity analysis system 100 in step T8d, the CPU 210 calls the buy price calculation program 240a from the quantity calculation program storage unit 230, and inputs the amount of previously deposited money to the buy price calculation program 240a to calculate a buy price list in step T8e. Since this calculation is matched with that executed by the quantity list calculator 180 of the quantity analysis system 100, no further detailed description will be described.

When the calculation is finished, the CPU 210 displays the calculated data in the buy price list window 240b in step T8f.

Next, when the user selects a predetermined line (row, percent, buy price) on the buy price list 240b so as to know the buyable quantity for each stock price according to the buy price in step T9, the CPU 210 inputs the selected buy price in the buy price input blank 240c and highlights the corresponding line on the buy price list in step T10.

After this, referring to FIG. 14, when the user selects the quantity calculation button 240d of the buy order screen 240 in step T11, the CPU 210 calls the quantity calculation program 240b from the quantity calculation program storage unit 240 in step T12a, and the corresponding issue's standard price from the nominal price information window 240h in step T12b.

The CPU 210 then calculates the quantity list (stock prices, ADRs, advance-decline depths, commissions, commission rates, break-even points, and break-even differences). Since this calculation is matched with that executed by the quantity list calculator 180 of the quantity analysis system 100 according to the first preferred embodiment of the present invention, no further detailed description will be provided.

When the calculation is finished, the CPU 210 displays the calculated data in the quantity list window 240d in step T12e.

Next, a process for inputting a buy order and analyzing the profit and loss will be described.

Referring to FIG. 12c, the CPU 210 determines whether the user synthetically checks the stock price, ADR, advance-decline depth and quantity, decides a desired buy price, and selects (or clicks twice using a mouse) a predetermined row of the quantity list window 240e to input a buy order in step T13.

When the user selects the predetermined row of the quantity list window 240e after the determination, the CPU automatically inputs the stock price on the row selected by the user in the buy unit cost input blank 240g, and at the same time, it automatically inputs the quantity on the row selected by the user in the buy quantity input blank 240f in step T15, and the CPU 210 highlights the row selected by the user in step T16.

Also, the CPU 210 executes the profit and loss analysis assuming that the quantity of the buy quantity input blank 240f is set to be a quantity, the stock price of the buy unit cost input blank 240g is set to be a buy price,

and the stock price of the stock price list is set to be a sell price.

The CPU 210 calls the profit and loss analysis program 230c from the quantity calculation program storage unit 240 in step T17a, and inputs the stock price list, the buy quantity, and the buy unit cost to the profit and loss analysis program 230c in step T17b. Next, the CPU 210 divides the stock price of the stock price list by the buy price to calculate the earning rate for each stock price in step T17c, subtracts the buy unit cost from the stock price of the stock price list to calculate a profit and loss depth in step T17d, and multiplies the profit and loss depth by the quantity to calculate the total profit or loss for each stock price in step T17e, and therefore, the corresponding calculation is finished.

When the calculation is finished in step T17f, the CPU 210 displays the calculated profit and loss analysis data (including the total profit and loss, the earning rate, and the profit or loss depth) in the quantity list window 240d in step T17g. Therefore, since the user can previously check the changes of the total profit and loss varied for each price using the buy price and quantity before transmitting a buy order (i.e., without actually buying the stocks), the user can more correctly decide a buy opinion.

Further, the profit and loss analysis program 230c may include calculations of: the commission for each stock price (i.e., (buy price + sell price) x commission rate); the commission rate (i.e., commission / (buy price + sell price)); the net profit or loss for each stock price (i.e., total profit or loss – commission); the net profit or loss rate (i.e., (total profit or loss – commission) / total buy price); the total sell price (i.e., stock price x quantity);

and the total sell rate (i.e., total sell price / total buy price) in addition to the total profit and loss, the earning rate, and the profit or loss depth.

Next, when the user selects a buy-order transmission button, the CPU 210 outputs buy order information to the quantity analysis system 100 in step T18. The process for canceling or correcting the order is matched with that of the first preferred embodiment in steps T19 to T21.

For reference, several data and calculation results applied to the embodiments of the present invention will now be described.

FIG. 16 shows an exemplified buy price list calculated by the quantity analysis system 100 or the cyber trading system 200. In the case of an unpaid buy (or a credit order), the amount of previously deposited money becomes 100%, and the maximum credit buy becomes 250% (in the case of 2.5 times), and hence, the buy price list can be expanded. In the case of desiring to buy a plurality of issues, the user can divide the amount of previously deposited money according to a predetermined percent and assign the divided money to buy the issues. Also, since the user can synthetically determine the percent of the previously deposited money of the list and the corresponding money, the user can more correctly and quickly decide the buy price.

FIGs. 17(a) to 17(k) show exemplified quantity lists calculated by the quantity analysis system 100 or the cyber trading system 200. In regard to all the stock prices (the stock prices from the highest to lowest limits, the ADRs, and the advance-decline depths) in a day, the user can obtain core information (earning rate, profit and loss depth, and total profit and loss) on

the profit and loss, and trends for each stock price, varied according to respective values and mostly desired by the user, as well as the buyable quantity for each stock price, other additional information (including commission (rates) and break-even point (differences)). Therefore, by accurately obtaining the stock price information and the profit and loss information, the user can more effectively decide desired buy prices, automatically calculate the quantity according to the buy price volume, and visually check the trends of various profits and losses for respective price ranges to be generated according to selection of the buy price without calculation. Accordingly, the user can use the present embodiment as a scientific and quick tool for deciding whether to buy the desired stocks, such as restraining from buying stocks while their prices are rising, additional increasing/decreasing the buy price or quantity, and establishing limits for sale with a loss. That is, since the user can integrate various kinds of core information needed for the buy order into a point, the user can use more advanced stock investment environments. Also, the user completes the buy order by only selecting a predetermined line.

The quantity list can be edited and displayed in many various ways according to screen features or the user's requests. That is, a specific column or a specific data region can be calculated or displayed according to the user's requirements.

FIG. 18 shows an exemplified buy order screen 240 on which a buy price list according to an amount of previously deposited money, and a buy

quantity list per stock price with reference to a predetermined price (the buy price) from among many buy prices are provided, and the buy order according to selection of the buy price is automatically input through a simple operation. That is, since all calculation and information needed for the buy order is integrated and automatically displayed on the buy order screen 240, the user can finish the desired order through clicking the mouse twice.

FIG. 19 shows a comparison of the conventional buy order method to the improved buy order according to the present invention. The improved points include the conveniences wherein the buy unit-cost and the quantity are automatically and concurrently input when the investor just clicks the mouse once, the accuracy improvements wherein the present invention completely removes incorrect inputting and mistyping of the buy unit-cost and the buy quantity, no necessity of checking correct input states after inputting data, minimization of the hand and eye operation, and minimization of operations and time caused by not using the keyboard.

The investor can complete the order by analyzing the stock price and the quantity in the quantity list, and selecting the desired buy price through one click of the mouse. Order correction and cancellation are also executed through one click of the mouse.

As described above, the cyber trading service device and method according to the embodiments of the present invention has the following merits.

1) Step 1 of determining the buy price volume: The investor can check the buy price list that includes the amount of subdivided previously

deposited money (including the orderable price and the credit order price) only through one click of the mouse, and by synthetically determining the percent and the corresponding price and selecting a specific price, the investor can fix it as the buy price.

2) Step 2 of analyzing the buy unit-cost: The investor can automatically check stock price information (including stock prices, ADRs and advance-decline depths) from the highest to lowest limits through a table format. Also, by synthetically checking the stock prices, ADRs and advance-decline depths, the investor experiences synergy effects and can more accurately decide buy price regions.

3) Step 3 of calculating the buy quantity: By clicking the mouse once, the investor can automatically know the buyable quantity for each stock price according to the buy price.

4) Step 4 of the buy order: By clicking the mouse once on the quantity list, the investor can automatically and concurrently input the buy quantity and the buy unit-cost, and execute the order. Also, the investor can easily execute cancellation or correction orders. The time required for the buy order is reduced to 1 to 3 seconds compared to the conventional required time of more than 10 seconds. Since incorrect data inputs of the buy price and the buy quantity do not occur, undesirable loss is prevented. The present invention prevents the investor from mistyping the buy price and the buy quantity, and does not require the 10 keyboard inputs normally needed for inputting the desired price and quantity. Conventionally, the investor had to alternately look at the monitor and the keyboard more than

four times, and the investor can now only view the monitor. It is no longer required for the investor to finally check whether the buy quantity and the corresponding unit cost are accurately input before transmitting the order, to analyze buy-related information generated after the input of the order, and to alternately use the keyboard and the mouse for inputting numbers.

5) Simulation of the profit and loss analysis: The investor can use various profit and loss services for the respective stock prices using the buy unit cost and the buy quantity before transmitting the buy order, and accordingly, since the investor can check various profits and losses without actually buying the stocks, the investor can determine the volume and trends of the profit and loss and receive services for supporting buy and sell decisions such as restraining from buying stocks while their prices are rising, deciding to cancel the buy, additional increasing or reducing the buy price and quantity, modifying the buy price, previously determining the sell price, and determining the price of a sale with a loss. The conventional method does not have the concept of profit and loss before the buy.

6) Catching of additional information: The investor can more accurately decide the buy order through checking the commissions, the commission rates, the break-even points, and the break-even differences. In the case of daily trading, when the investor sells the stocks with the price of over the buy price by one nominal price (one click or tick), the investor can previously check whether he earns or loses for each stock price.

7) Synergy effects: Since the investor can check buy-related core information such as the buy price list, the quantity list, and various kinds of

profit and loss information in an integrated environment for the respective price regions, he can obtain a more profitable investment environment.

8) Two-dimensional calculation: According to the present invention, two-dimensional buy-related information with respect to all price regions can be calculated once. Also, since the stock price and quantity analysis data are displayed in the table format, the investor and check much integrated data at a first attempt.

9) Application in the case of sell order: When the investor is holding the stocks, the process for setting a portion of estimated stock prices to be a sell price (a sell price list), calculating the sell quantity for each stock price according to the sell price (a quantity list), and automatically performing the sell order, is matched with that of the present buy quantity service, and hence, the identical method can be applied to the case of selling the stocks.

10) (a) The investor saves mental energy spent determining the stock prices, the buy prices, and the quantity analysis. (b) Since the time required for calculating the stock prices, dividing the amount of previously deposited money, analyzing the quantity, and performing the buy order is saved, time expenses are reduced. (c) It is not necessary for the investor to put memo sheets, a pencil, and an electronic calculator before the monitor. (d) Since the investor can previously print out the quantity list and adhere it to the monitor to perform the transactions, the investor can more effectively analyze the stock prices and the quantity. (e) Since the daily trader can immediately check the break-even points on the buy order screen and the present price screen, he can catch more clear sell-reference timing and

maximize his profits.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

WHAT IS CLAIMED IS:

1. A cyber trading service device for providing cyber trading services according to requests by a plurality of client PCs (personal computers), comprising:

a main controller for calculating a buy price list when a buy price calculation request is received from a corresponding client PC, and calculating a quantity list and outputting calculation results data when a calculation request signal on the quantity list is received; and

a quantity list calculator for dividing an amount of previously deposited money by percent (%) to calculate the buy price list when the amount of previously deposited money is received through the main controller, and calculating the quantity list that is buy information for respective stock prices from the corresponding issue's standard price and buy price and outputting corresponding calculation results to the corresponding client PC when the user's issue code and buy price are input.

2. The device of claim 1, further comprising a communication controller for transmitting data to the main controller when the data including an account number, an issue code, and a buy price are input from the client PC according to the user's selection, and outputting the buy price list or the quantity list calculated according to control by the main controller to the corresponding client PC through a communication network.

3. The device of claim 1 or 2, further comprising:

a client information database for storing user IDs, passwords,

account information and personal information, and providing data stored for determining registered user states when the client PC user logs in so as to perform cyber trading;

an account information database for storing the user's previously deposited money information; and

a stock price information database for storing stock price information periodically input by an external stock information provider, including a corresponding issue's standard price, present price, nominal price, sell quantity for each nominal price, buy quantity, transaction quantity, and the highest and lowest limit prices.

4. The device of claim 3, further comprising:

a management program input unit for receiving a management program related to the cyber stock transactions used by a manager at the main controller, and a calculation program for calculating the quantity list; and

a quantity calculation program database for storing a quantity list calculation program input from the management program input unit.

5. The device of claim 4, wherein the quantity calculation program database comprises:

a buy price calculation program for using the account information's previously deposited money amount to calculate the buy price's volume list; and

a quantity calculation program for calculating stock prices to which

the nominal prices of from the highest limit to the lowest limit of the corresponding issue are applied, advance-decline ratios (ADR) and advance-decline depth lists, buyable quantity for each stock price according to the buy price, actual buy price, commission, commission rate, break-even point, and break-even difference.

6. The device of claim 5, wherein the calculation process by the buy price calculation program includes the steps of:

calculating a percent (%) list of from 100 to 1%; and

multiplying the respective percent values of the percent list by the previously deposited money amount input from the account information database to calculate a buy price list.

7. The device of claim 5, wherein the calculation process by the quantity calculation program includes the steps of:

calculating the highest and lowest limit prices with reference to the corresponding issue's standard price, and applying the nominal prices of from the highest to the lowest limit prices to calculate a stock list;

dividing the respective stock prices of the stock price list by the standard price to calculate the ADRs for each stock price;

subtracting the standard price from the respective stock prices of the stock price list to calculate the advance-decline depth for the respective stock prices;

dividing the buy price by the respective stock prices to calculate the buyable quantity for each stock price;

multiplying the stock price by the buy quantity to calculate the

actual buy price for each stock price;

multiplying the actual buy price by the commission rate and adding the default commission to the multiplied results to calculate the commission for each stock price;

dividing the commission by the actual buy price to calculate the commission rate for each stock price;

multiplying the stock price by the break-even point rate to calculate the break-even point for each stock price; and

subtracting the stock price from the break-even point to calculate the break-even difference.

8. A cyber trading service device for receiving stock information from a securities corporation's server and providing a cyber trading service, comprising:

a quantity calculation program storage unit for calculating a quantity list using a corresponding issue's standard price and buy price;

a CPU (central processing unit) for controlling to load a corresponding program in the quantity calculation program storage unit to an inner main memory, execute it, and output calculation results of the quantity list; and

a display for displaying the calculation results output by the CPU to a user.

9. The device of claim 8, wherein the quantity calculation program storage unit comprises:

a buy price calculation program for using the amount of previously deposited money of account information to calculate the buy price's volume list;

a quantity calculation program for calculating stock prices to which the nominal prices of from the highest limit to the lowest limit of the corresponding issue are applied, advance-decline ratios (ADR) and advance-decline depth lists, buyable quantity for each stock price according to the buy price, actual buy price, commission, commission rate, break-even point, and break-even difference; and

a profit and loss analysis program for setting the quantity in a buy quantity input blank to be a buy quantity, the stock price in the buy unit cost input blank to be a buy price, and the stock price in the stock price list to be a sell price, to perform profit and loss analysis.

10. The device of claim 9, wherein the profit and loss analysis program includes steps of:

dividing the stock price in the stock price list by the buy price to calculate the earning rate;

subtracting the buy unit cost from the stock price in the stock price list to calculate the profit and loss depth; and

multiplying the profit and loss depth by the quantity to calculate the total profit and loss for each stock price.

11. A cyber trading service method for providing a cyber trading service according to requests by a plurality of client PCs, comprising:

transmitting stock price information to a corresponding client PC

when a user selects a predetermined issue on a buy order screen through a cyber trading system in the client PC;

receiving the user's account number from the client PC, inputting a previously deposited money amount to a previously established calculation program to calculate a buy price list, and outputting calculation results to the corresponding client PC; and

receiving the user's issue code and buy price from the client PC, and inputting the corresponding issue's standard price and buy price to the previously established calculation program to calculate a quantity list, and outputting calculation results to the corresponding client PC.

12. The method of claim 11, wherein the quantity list includes information on buyable quantities, actual buy prices, commissions, commission rates, break-even points, and break-even differences for all stock prices in the corresponding day.

13. A cyber trading service method for receiving stock information from a securities corporation's server and providing the cyber trading service, comprising:

(a) a CPU displaying stock price information on a buy order screen when a user logs in to a cyber trading system in a client PC;

(b) the CPU receiving previously deposited money information from the securities corporation's server when the user selects a buy price calculation on the buy order screen, using a corresponding calculation program to calculate a buy price list, and displaying the buy price list in a buy

price list window;

(c) the CPU using a corresponding calculation program to calculate the buy quantity corresponding to a stock price list and a stock price, and displaying it in a quantity list window when the user selects a predetermined price in the buy price list window;

(d) the CPU setting a selected stock price to be a buy price, the corresponding quantity to be a buy quantity, and automatically and concurrently inputting them in a buy order blank when the user selects a predetermined stock price in the quantity list window; and

(e) the CPU using a corresponding calculation program to calculate the profit and loss analysis for each stock price and displaying the same in the quantity list window when the user selects a predetermined stock price in the quantity list window.

14. The method of claim 13, wherein in (b), the calculation of the buy price includes:

calculating a percent (%) list of from 1 to 100%; and

multiplying the previously deposited money amount by each percent to calculate a buy price list for each percent.

15. The method of claim 14, wherein in (c), the calculation of the quantity list comprises:

calculating the highest and lowest limit prices with reference to the corresponding issue's standard price, and applying the nominal prices of from the highest to the lowest limit prices to calculate a stock list;

dividing the respective stock prices of the stock price list by the

standard price to calculate the ADRs;

subtracting the standard price from the respective stock prices of the stock price list to calculate the advance-decline depth;

dividing the buy price by the respective stock prices to calculate the buyable quantity;

multiplying the stock price by the buy quantity to calculate the actual buy price;

multiplying the actual buy price by the commission rate and adding the default commission to the multiplied results to calculate the commission;

dividing the commission by the actual buy price to calculate the commission rate;

multiplying the stock price by the break-even point rate to calculate the break-even point; and

subtracting the stock price from the break-even point to calculate the break-even difference.

16. The method of claim 15, wherein in (e), the profit and loss analysis process includes the steps of:

dividing the stock price in the stock price list by the buy price to calculate the earning rate;

subtracting the buy unit cost from the stock price in the stock price list to calculate the profit and loss depth;

multiplying the profit and loss depth by the quantity to calculate the total profit and loss for each stock price; and

calculating the commissions, commission rates, net profits or

losses, net profit or loss rates, total sell prices and total sell rates for the respective stock prices.

FIG.1

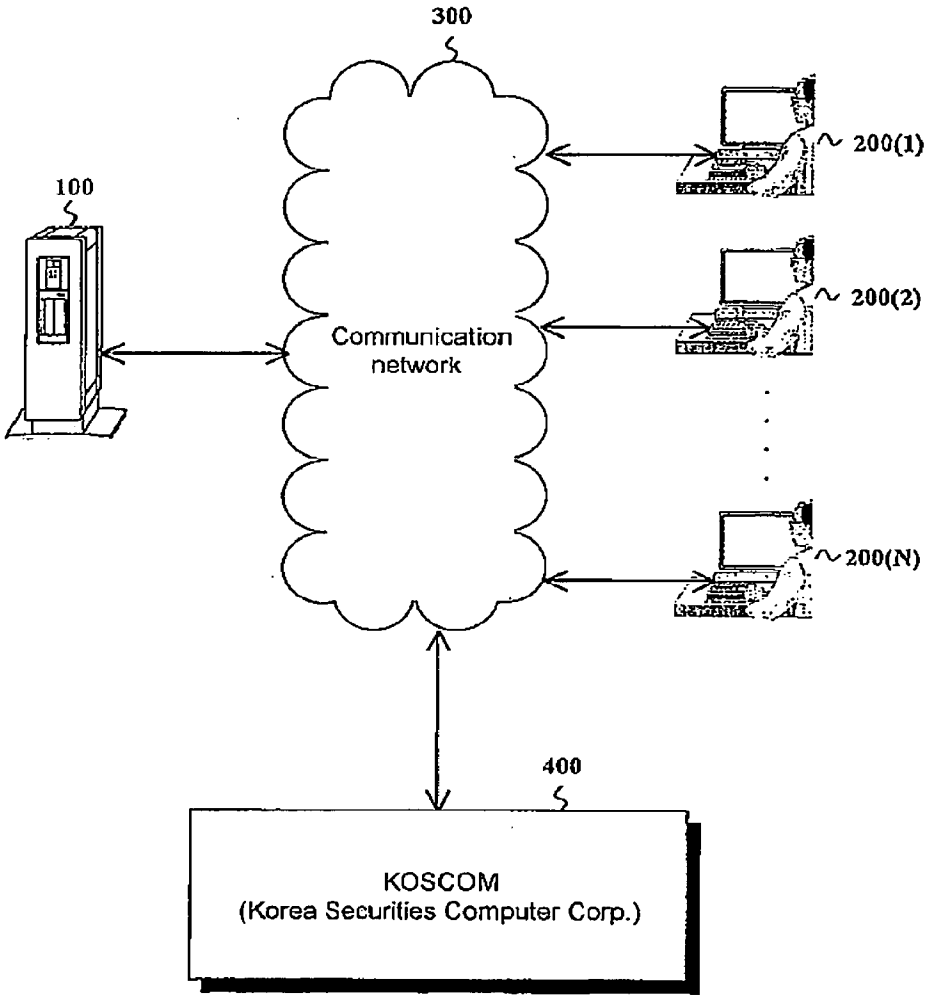

300
100
200(1)
200(2)
200(N)
Communication network
400
KOSCOM
(Korea Securities Computer Corp.)

FIG.2

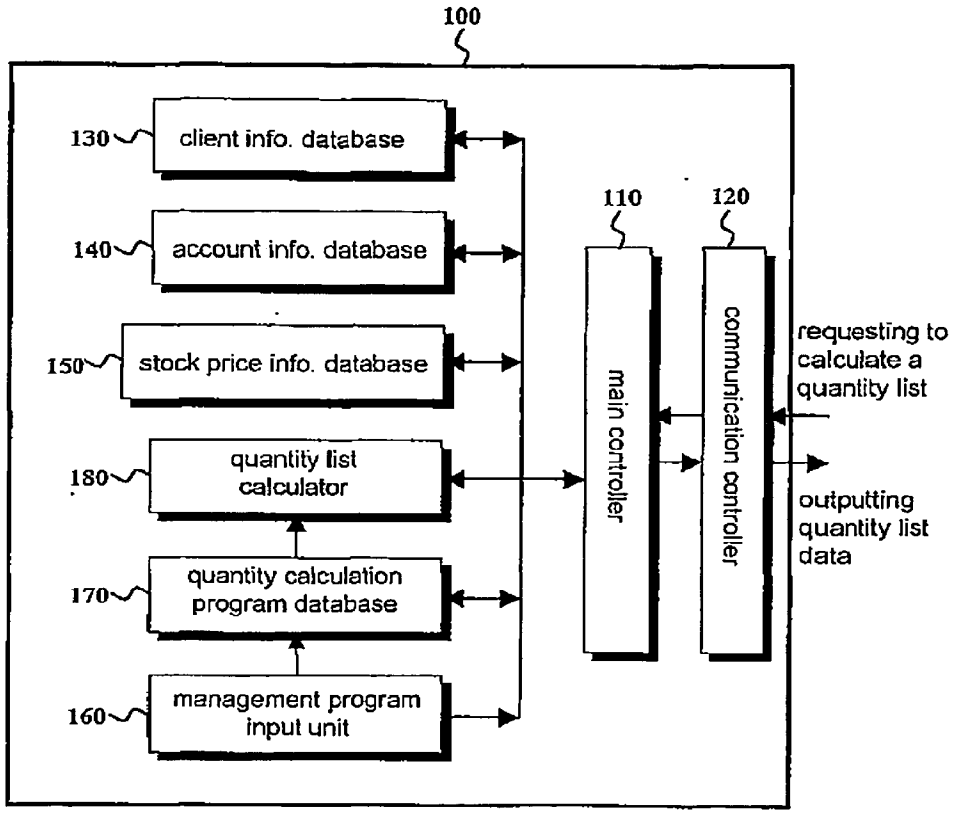

100
130
client info. database
140
account info. database
150
stock price info. database
180
quantity list calculator
170
quantity calculation program database
160
management program input unit
110
main controller
120
communication controller
requesting to calculate a quantity list
outputting quantity list data

FIG.3

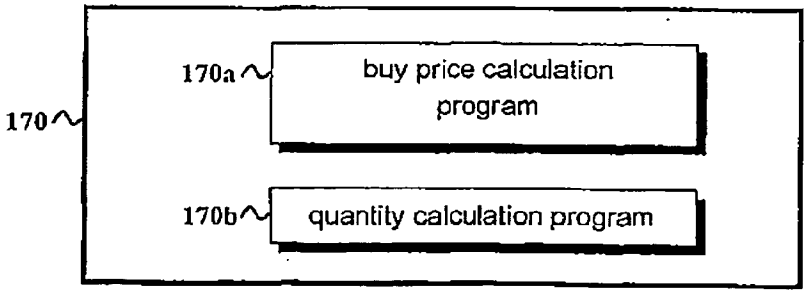

170
170a
buy price calculation program
170b
quantity calculation program

FIG.4

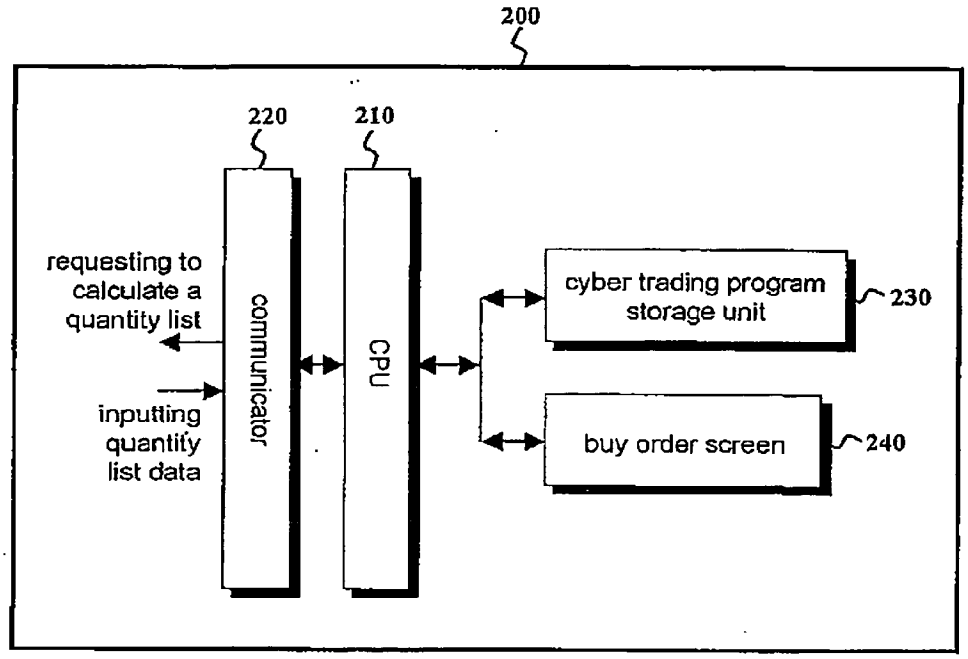

200
220
210
requesting to calculate a quantity list
inputting quantity list data
communicator
CPU
cyber trading program storage unit
230
buy order screen
240

FIG.5

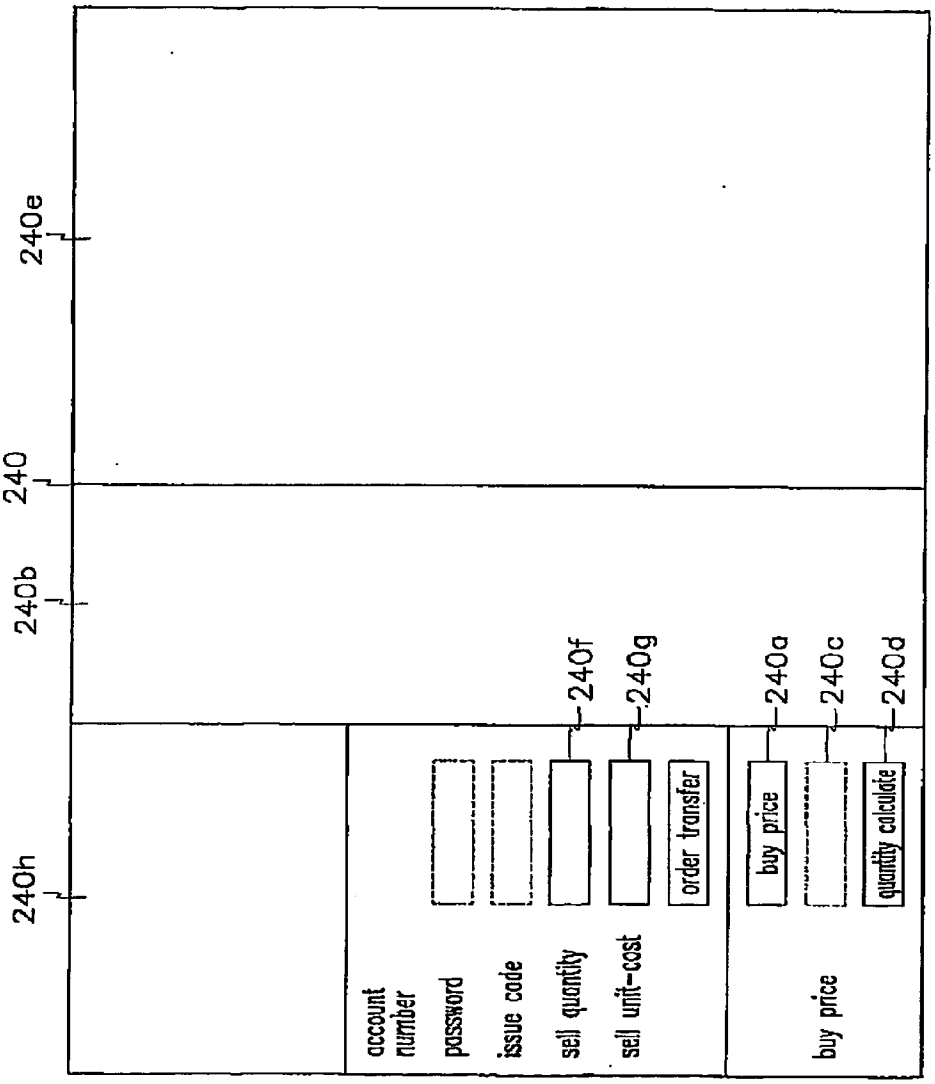

240e
240
240b
240h
account number
password
issue code
sell quantity
sell unit-cost
order transfer
240f
240g
buy price
buy price
quantity calculate
240a
240c
240d

FIG.6A

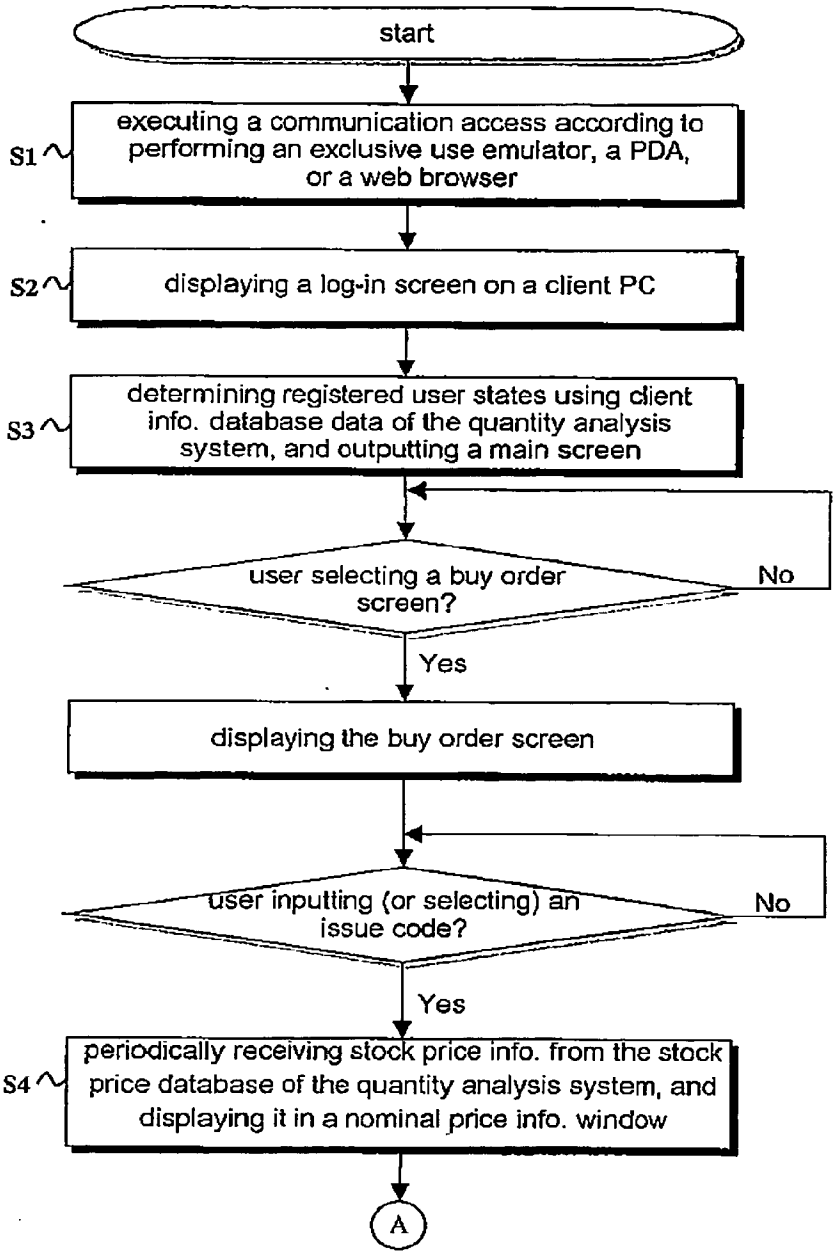
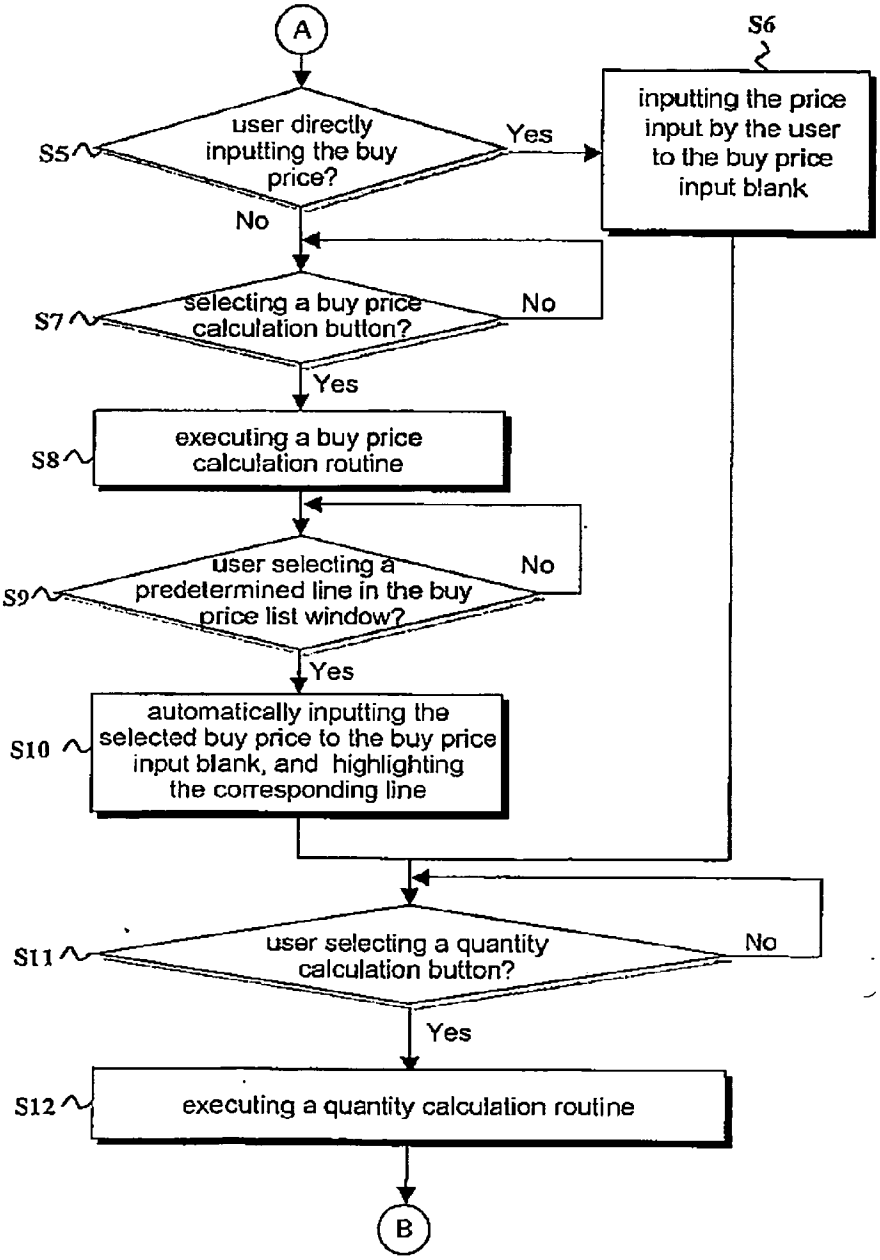

start
S1
executing a communication access according to performing an exclusive use emulator, a PDA, or a web browser
S2
displaying a log-in screen on a client PC
S3
determining registered user states using client info. database data of the quantity analysis system, and outputting a main screen
user selecting a buy order screen?
No
Yes
displaying the buy order screen
user inputting (or selecting) an issue code?
No
Yes
S4
periodically receiving stock price info. from the stock price database of the quantity analysis system, and displaying it in a nominal price info. window
A

FIG.6B


A
S6
S5
user directly inputting the buy price?
Yes
inputting the price input by the user to the buy price input blank
No
S7
selecting a buy price calculation button?
No
Yes
S8
executing a buy price calculation routine
S9
user selecting a predetermined line in the buy price list window?
No
Yes
S10
automatically inputting the selected buy price to the buy price input blank, and highlighting the corresponding line
S11
user selecting a quantity calculation button?
No
Yes
S12
executing a quantity calculation routine
B

7/30

FIG.6C

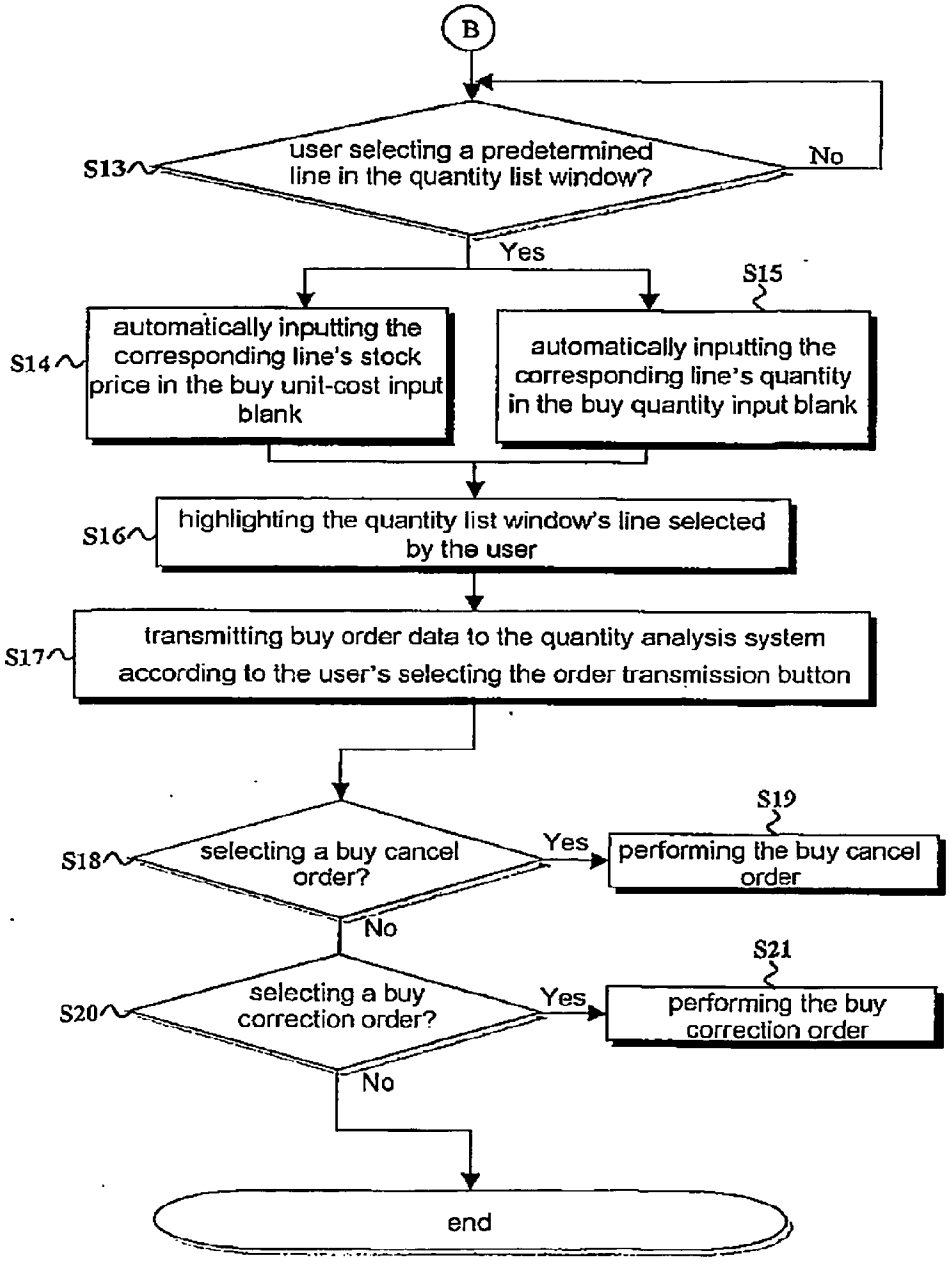

B
S13
user selecting a predetermined line in the quantity list window?
No
Yes
S14
automatically inputting the corresponding line's stock price in the buy unit-cost input blank
S15
automatically inputting the corresponding line's quantity in the buy quantity input blank
S16
highlighting the quantity list window's line selected by the user
S17
transmitting buy order data to the quantity analysis system according to the user's selecting the order transmission button
S18
selecting a buy cancel order?
Yes
S19
performing the buy cancel order
No
S20
selecting a buy correction order?
Yes
S21
performing the buy correction order
No
end

FIG.7A

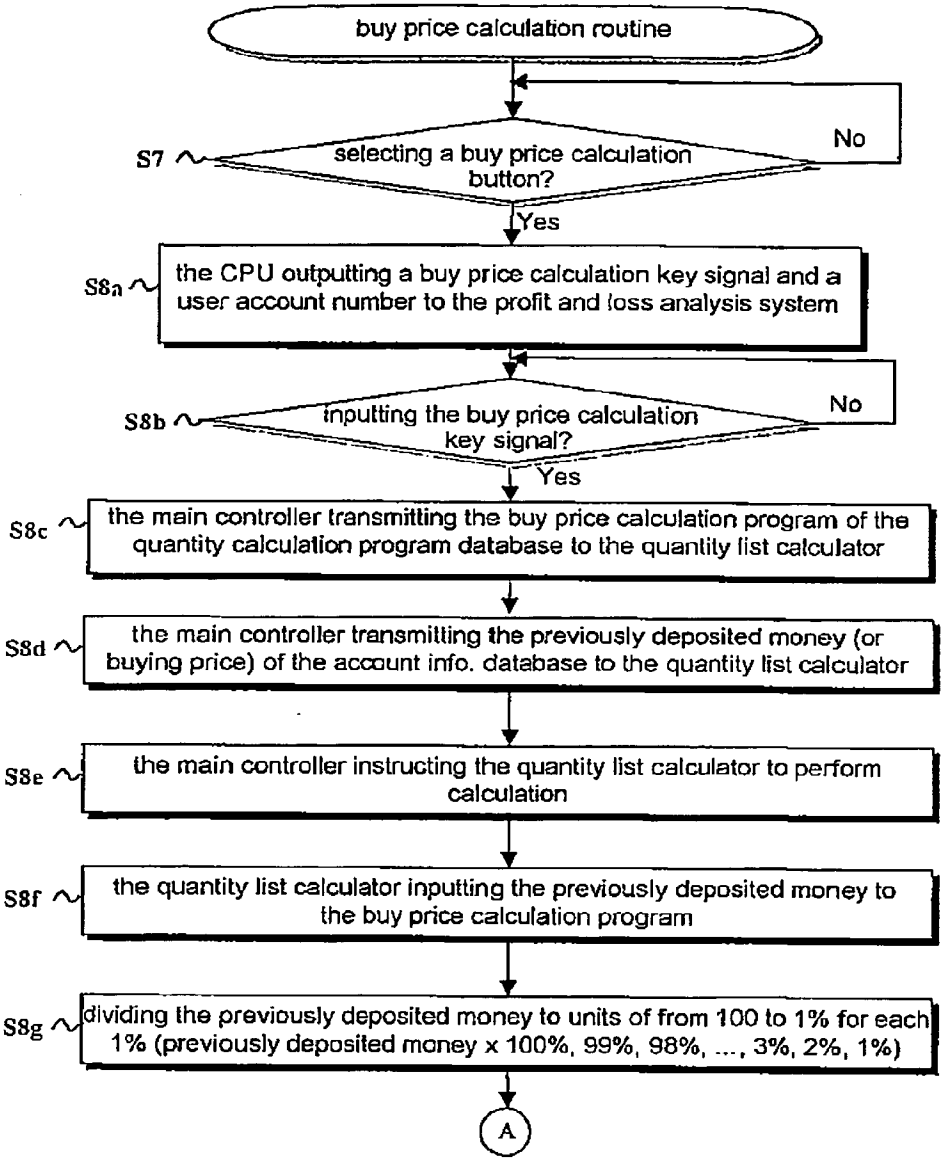

buy price calculation routine
S7
selecting a buy price calculation button?
No
Yes
S8a
the CPU outputting a buy price calculation key signal and a user account number to the profit and loss analysis system
S8b
inputting the buy price calculation key signal?
No
Yes
S8c
the main controller transmitting the buy price calculation program of the quantity calculation program database to the quantity list calculator
S8d
the main controller transmitting the previously deposited money (or buying price) of the account info. database to the quantity list calculator
S8e
the main controller instructing the quantity list calculator to perform calculation
S8f
the quantity list calculator inputting the previously deposited money to the buy price calculation program
S8g
dividing the previously deposited money to units of from 100 to 1% for each 1% (previously deposited money x 100%, 99%, 98%, ..., 3%, 2%, 1%)
A

FIG.7B

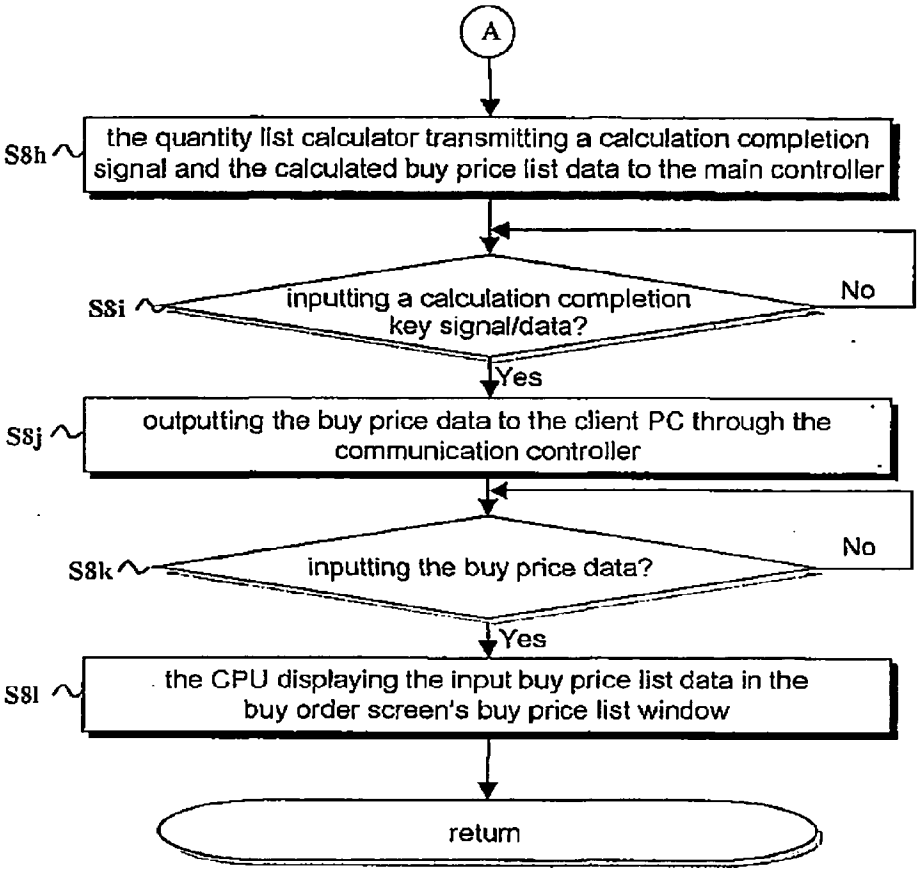

A
S8h
the quantity list calculator transmitting a calculation completion signal and the calculated buy price list data to the main controller
S8i
inputting a calculation completion key signal/data?
No
Yes
S8j
outputting the buy price data to the client PC through the communication controller
S8k
inputting the buy price data?
No
Yes
S8l
the CPU displaying the input buy price list data in the buy order screen's buy price list window
return

FIG.8A

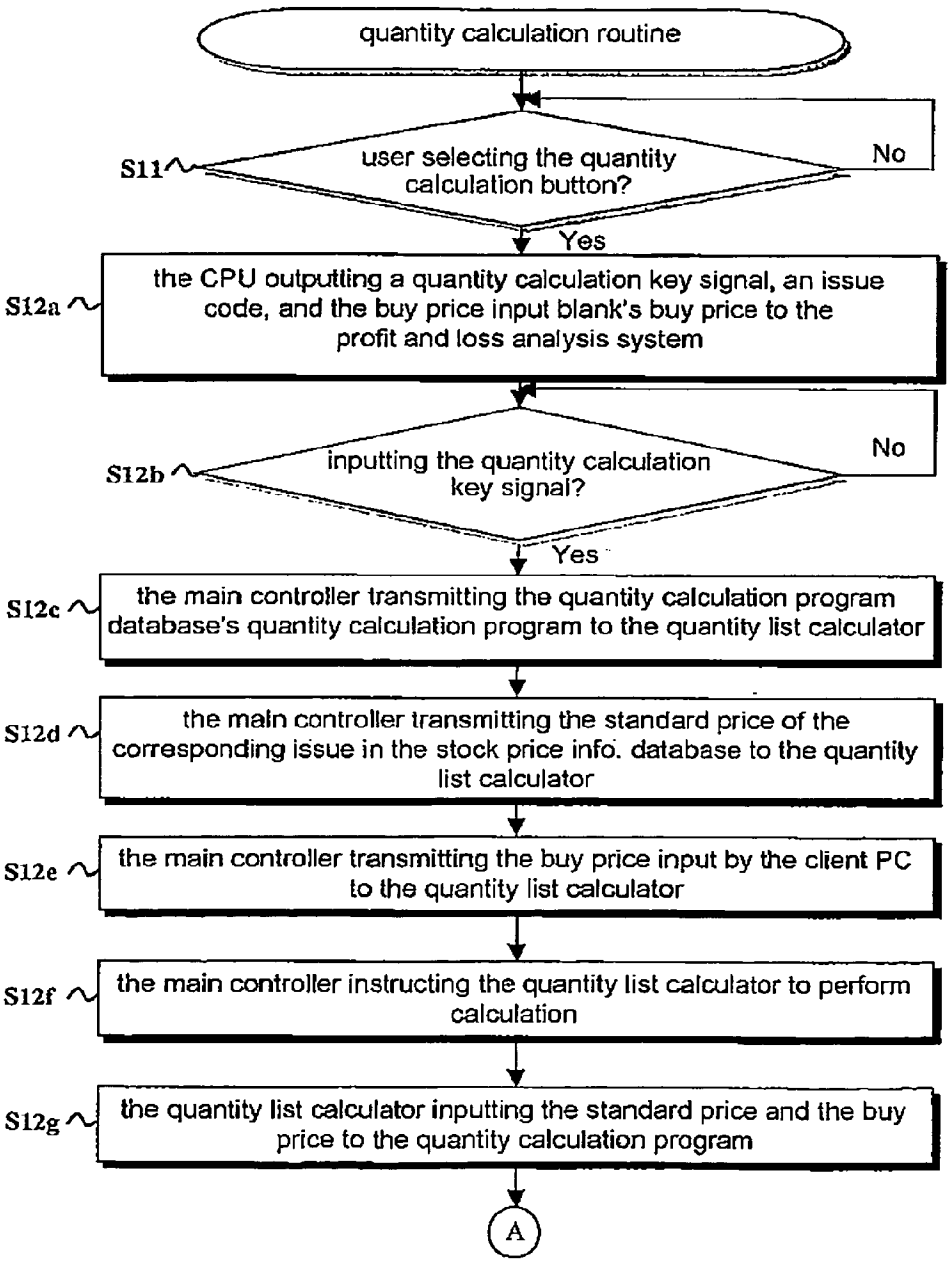

quantity calculation routine
S11
user selecting the quantity calculation button?
No
Yes
S12a
the CPU outputting a quantity calculation key signal, an issue code, and the buy price input blank's buy price to the profit and loss analysis system
S12b
inputting the quantity calculation key signal?
No
Yes
S12c
the main controller transmitting the quantity calculation program database's quantity calculation program to the quantity list calculator
S12d
the main controller transmitting the standard price of the corresponding issue in the stock price info. database to the quantity list calculator
S12e
the main controller transmitting the buy price input by the client PC to the quantity list calculator
S12f
the main controller instructing the quantity list calculator to perform calculation
S12g
the quantity list calculator inputting the standard price and the buy price to the quantity calculation program
A

FIG.8B

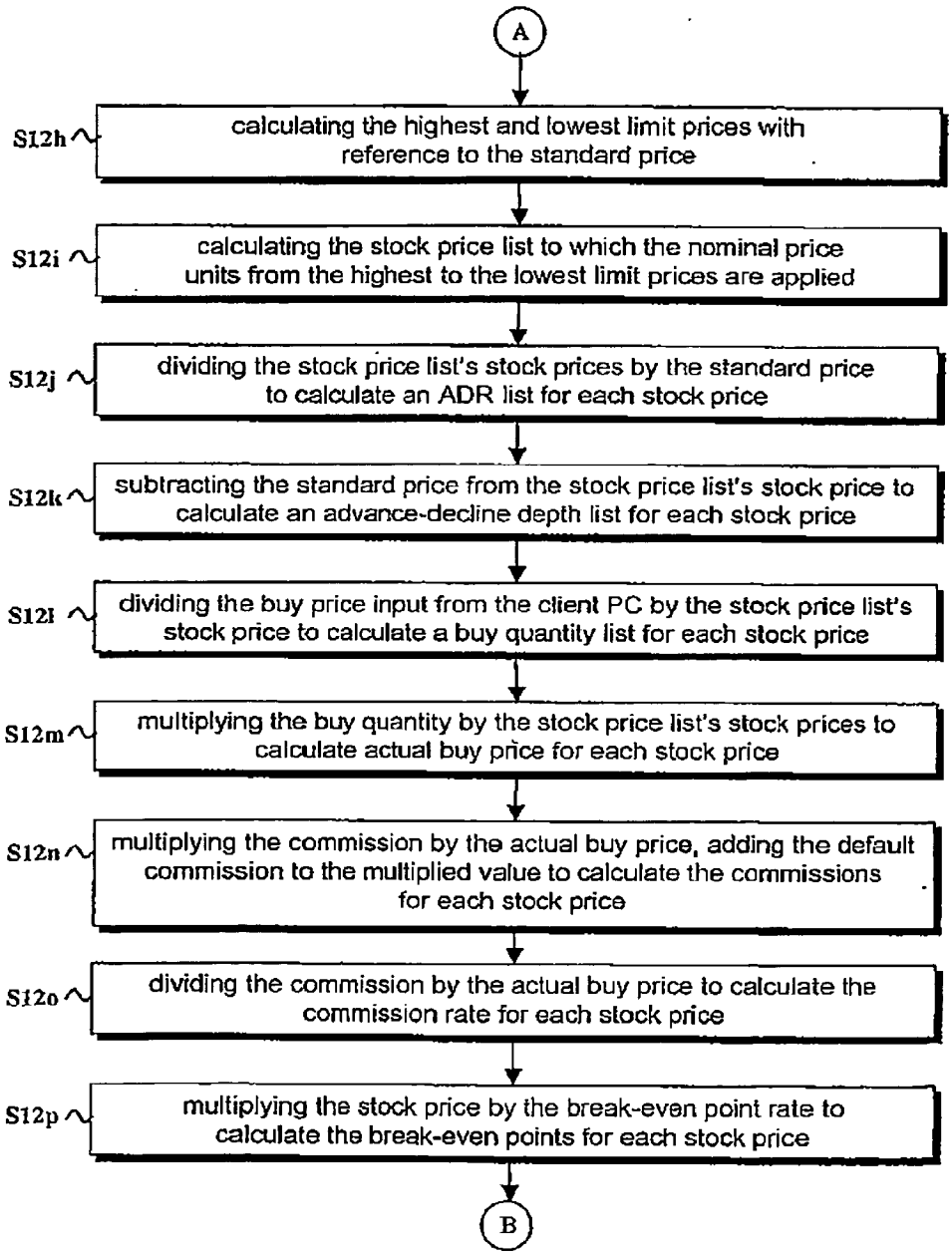

A
S12h
calculating the highest and lowest limit prices with reference to the standard price
S12i
calculating the stock price list to which the nominal price units from the highest to the lowest limit prices are applied
S12j
dividing the stock price list's stock prices by the standard price to calculate an ADR list for each stock price
S12k
subtracting the standard price from the stock price list's stock price to calculate an advance-decline depth list for each stock price
S12l
dividing the buy price input from the client PC by the stock price list's stock price to calculate a buy quantity list for each stock price
S12m
multiplying the buy quantity by the stock price list's stock prices to calculate actual buy price for each stock price
S12n
multiplying the commission by the actual buy price, adding the default commission to the multiplied value to calculate the commissions for each stock price
S12o
dividing the commission by the actual buy price to calculate the commission rate for each stock price
S12p
multiplying the stock price by the break-even point rate to calculate the break-even points for each stock price
B

FIG.8C

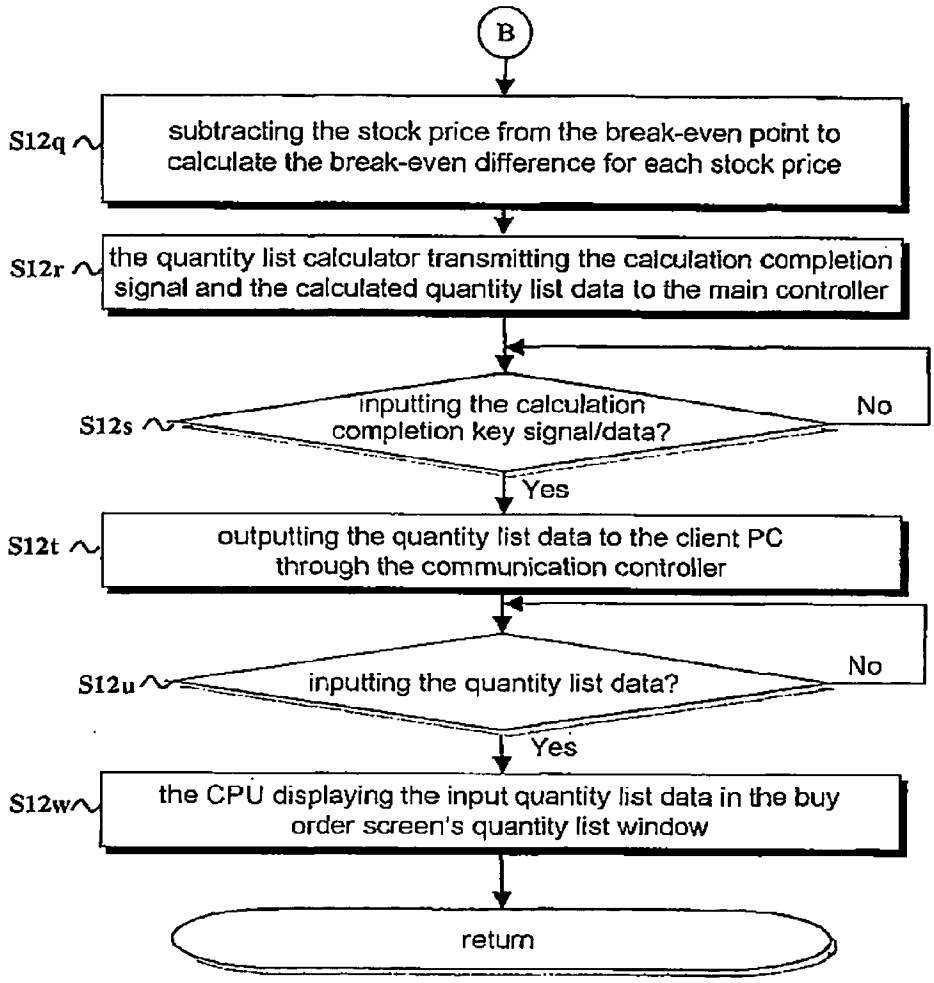

B
S12q
subtracting the stock price from the break-even point to calculate the break-even difference for each stock price
S12r
the quantity list calculator transmitting the calculation completion signal and the calculated quantity list data to the main controller
S12s
inputting the calculation completion key signal/data?
No
Yes
S12t
outputting the quantity list data to the client PC through the communication controller
S12u
inputting the quantity list data?
No
Yes
S12w
the CPU displaying the input quantity list data in the buy order screen's quantity list window
return

FIG.9

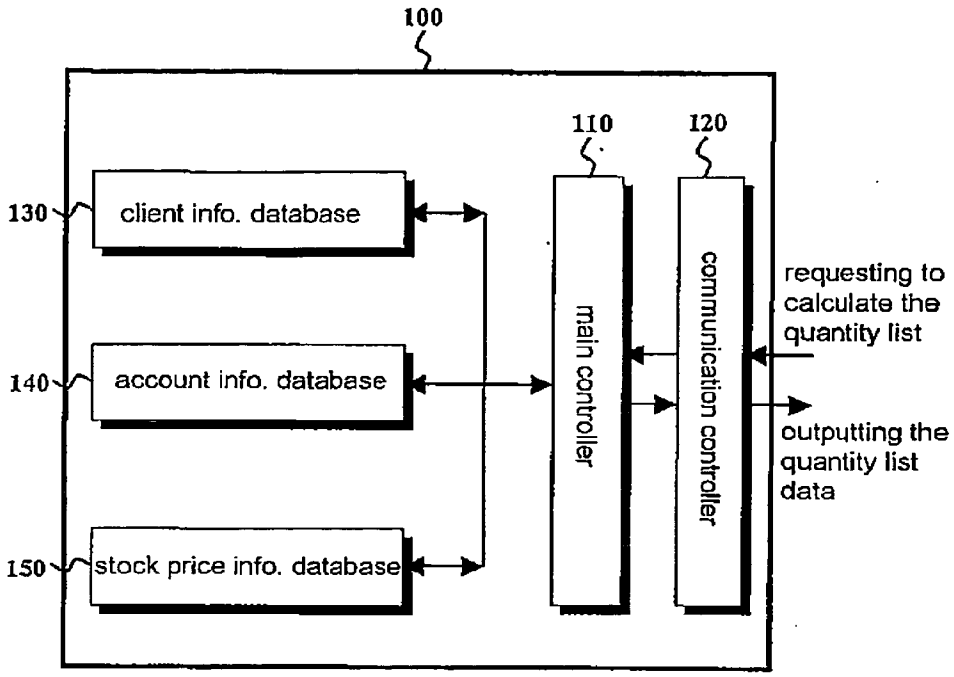

100
110
120
130
client info. database
140
account info. database
150
stock price info. database
main controller
communication controller
requesting to calculate the quantity list
outputting the quantity list data

FIG.10

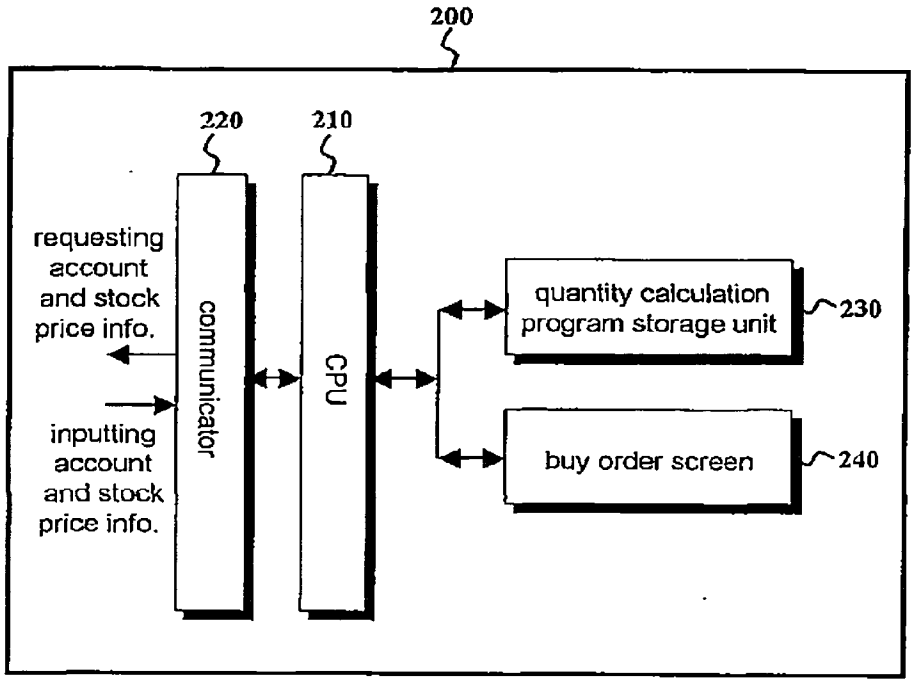

200
220
210
requesting account and stock price info.
inputting account and stock price info.
communicator
CPU
quantity calculation program storage unit
230
buy order screen
240

FIG.11

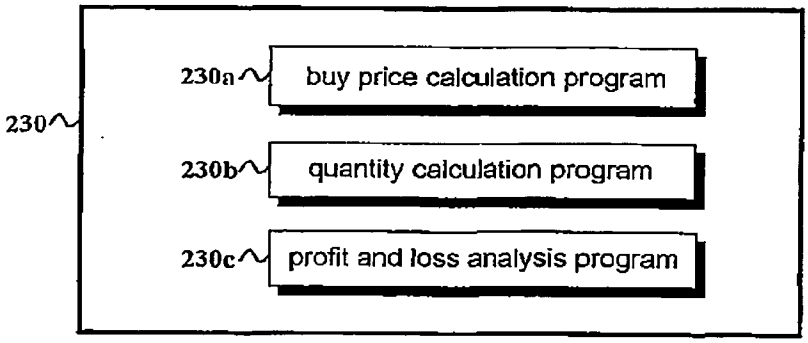

230
230a
buy price calculation program
230b
quantity calculation program
230c
profit and loss analysis program

FIG.12A

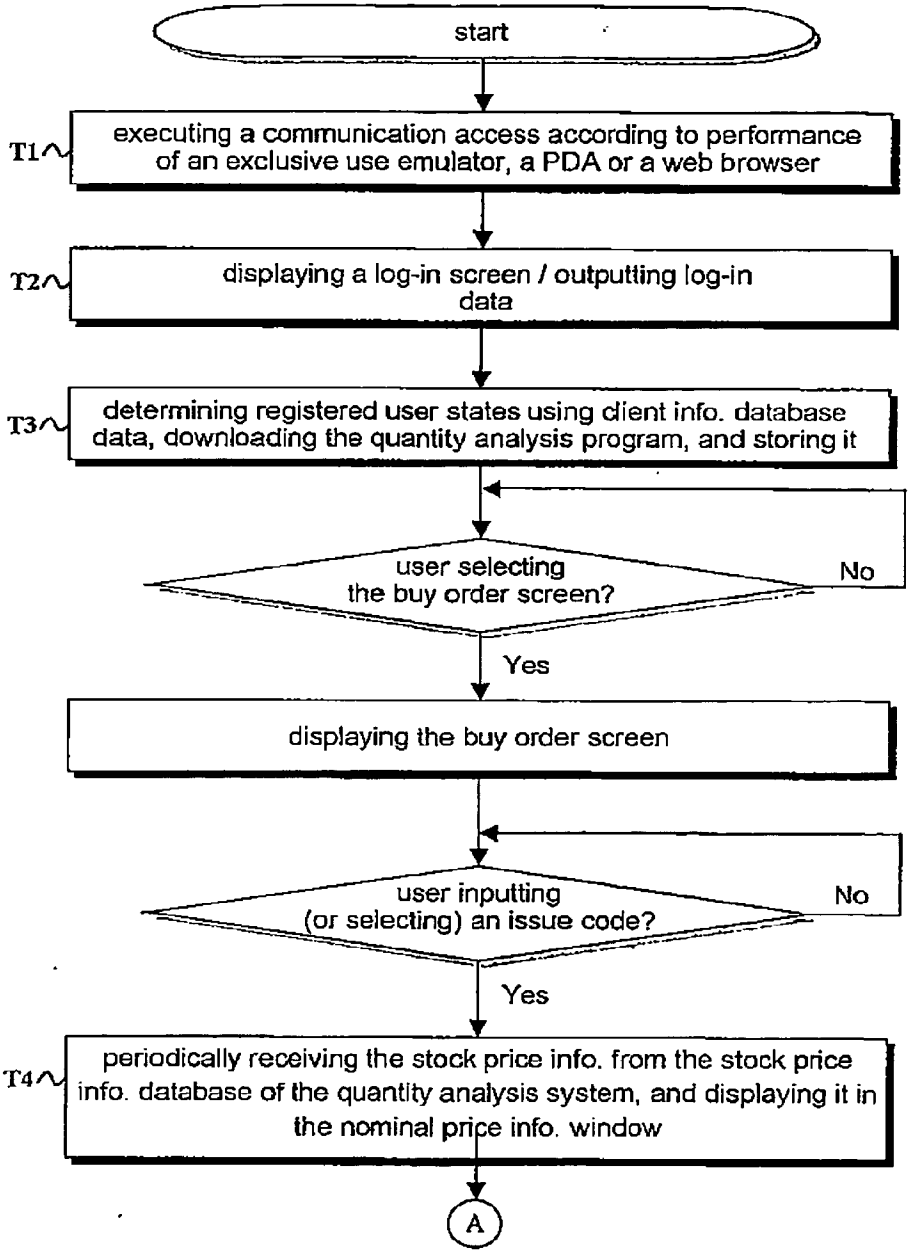

start
T1
executing a communication access according to performance of an exclusive use emulator, a PDA or a web browser
T2
displaying a log-in screen / outputting log-in data
T3
determining registered user states using client info. database data, downloading the quantity analysis program, and storing it
user selecting the buy order screen?
No
Yes
displaying the buy order screen
user inputting (or selecting) an issue code?
No
Yes
T4
periodically receiving the stock price info. from the stock price info. database of the quantity analysis system, and displaying it in the nominal price info. window
A

FIG.12B

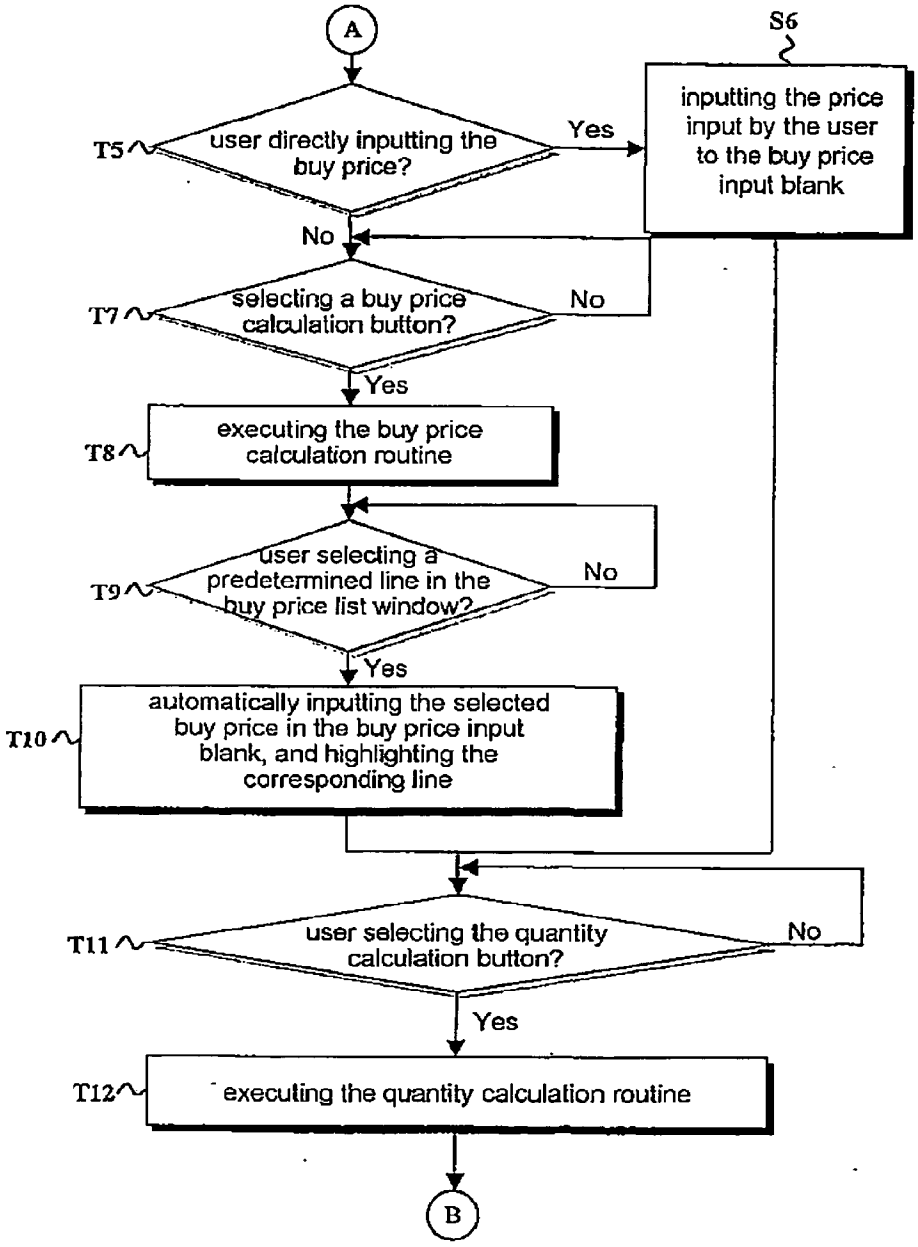

A
S6
T5
user directly inputting the buy price?
Yes
inputting the price input by the user to the buy price input blank
No
T7
selecting a buy price calculation button?
No
Yes
T8
executing the buy price calculation routine
T9
user selecting a predetermined line in the buy price list window?
No
Yes
T10
automatically inputting the selected buy price in the buy price input blank, and highlighting the corresponding line
T11
user selecting the quantity calculation button?
No
Yes
T12
executing the quantity calculation routine
B

FIG.12C

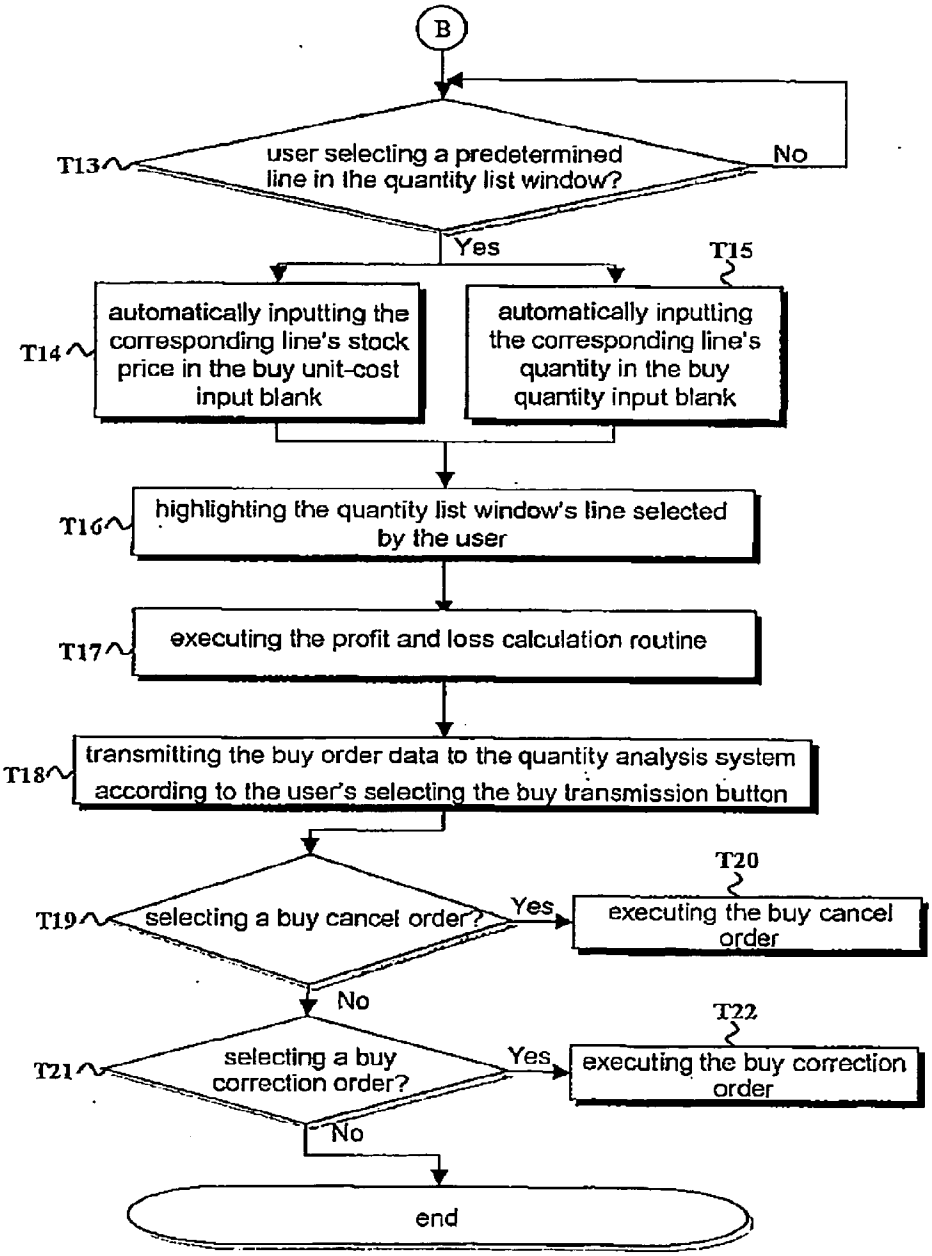

B
T13
user selecting a predetermined line in the quantity list window?
No
Yes
T15
T14
automatically inputting the corresponding line's stock price in the buy unit-cost input blank
automatically inputting the corresponding line's quantity in the buy quantity input blank
T16
highlighting the quantity list window's line selected by the user
T17
executing the profit and loss calculation routine
T18
transmitting the buy order data to the quantity analysis system according to the user's selecting the buy transmission button
T20
T19
selecting a buy cancel order?
Yes
executing the buy cancel order
No
T22
T21
selecting a buy correction order?
Yes
executing the buy correction order
No
end

FIG.13

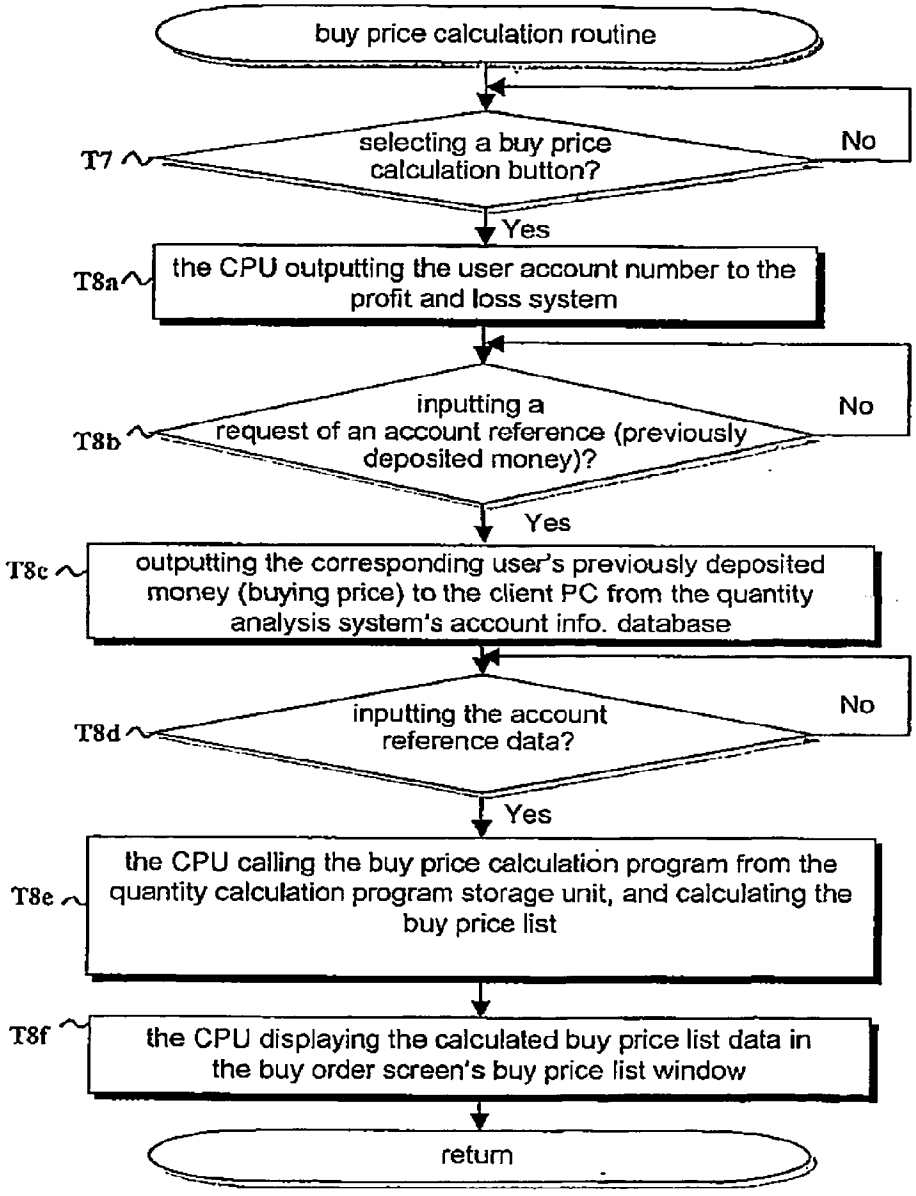

buy price calculation routine
T7
selecting a buy price calculation button?
No
Yes
T8a
the CPU outputting the user account number to the profit and loss system
T8b
inputting a request of an account reference (previously deposited money)?
No
Yes
T8c
outputting the corresponding user's previously deposited money (buying price) to the client PC from the quantity analysis system's account info. database
T8d
inputting the account reference data?
No
Yes
T8e
the CPU calling the buy price calculation program from the quantity calculation program storage unit, and calculating the buy price list
T8f
the CPU displaying the calculated buy price list data in the buy order screen's buy price list window
return

FIG.14

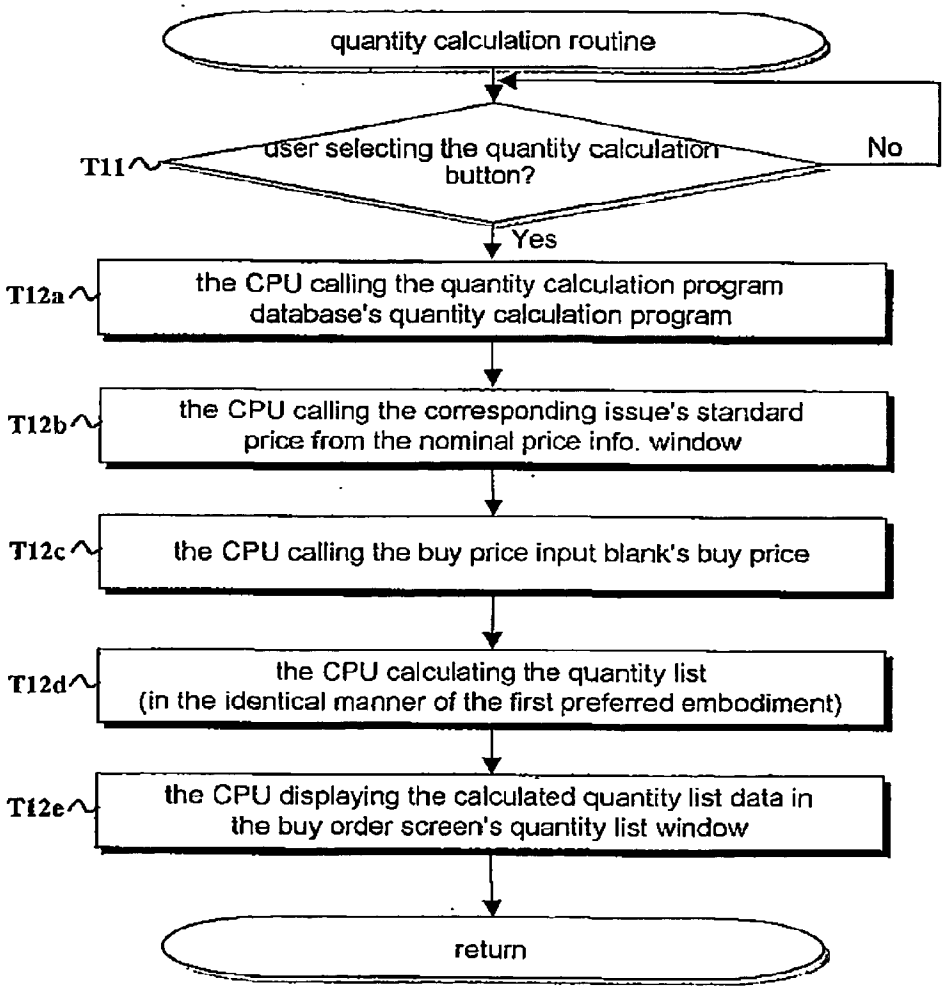

quantity calculation routine
T11
user selecting the quantity calculation button?
No
Yes
T12a
the CPU calling the quantity calculation program database's quantity calculation program
T12b
the CPU calling the corresponding issue's standard price from the nominal price info. window
T12c
the CPU calling the buy price input blank's buy price
T12d
the CPU calculating the quantity list (in the identical manner of the first preferred embodiment)
T12e
the CPU displaying the calculated quantity list data in the buy order screen's quantity list window
return

FIG.15

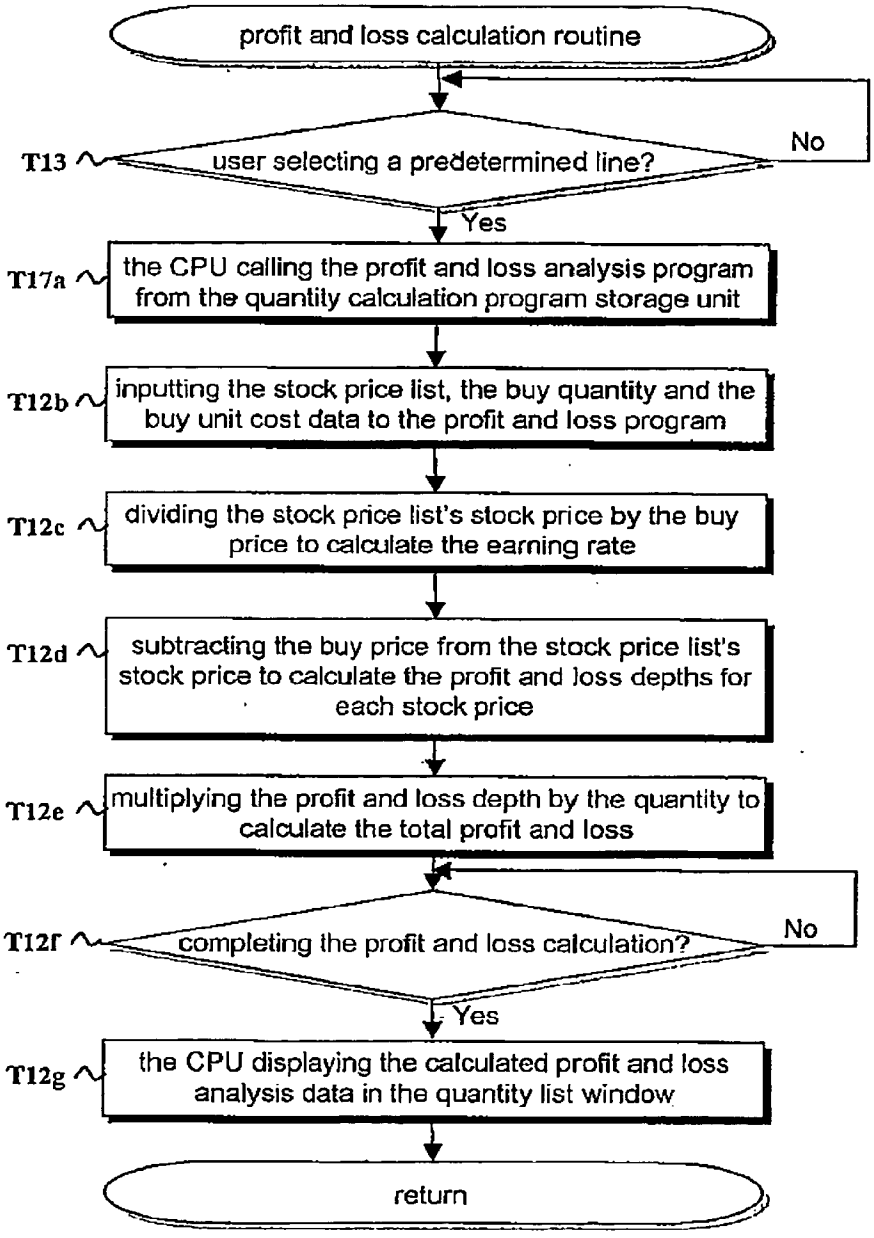

profit and loss calculation routine
T13
user selecting a predetermined line?
No
Yes
T17a
the CPU calling the profit and loss analysis program from the quantity calculation program storage unit
T12b
inputting the stock price list, the buy quantity and the buy unit cost data to the profit and loss program
T12c
dividing the stock price list's stock price by the buy price to calculate the earning rate
T12d
subtracting the buy price from the stock price list's stock price to calculate the profit and loss depths for each stock price
T12e
multiplying the profit and loss depth by the quantity to calculate the total profit and loss
T12f
completing the profit and loss calculation?
No
Yes
T12g
the CPU displaying the calculated profit and loss analysis data in the quantity list window
return

FIG.16

previously deposited money 23,500,000 (buying price)

%	buy price per %	%	buy price per %
100%	23,500,000	50%	11,750,000
99%	23,265,000	49%	11,515,000
98%	23,030,000	48%	11,280,000
97%	22,795,000	47%	11,046,000
96%	22,560,000	46%	10,810,000
95%	22,325,000	45%	10,575,000
94%	22,090,000	44%	10,340,000
93%	21,855,000	43%	10,105,000
92%	21,620,000	42%	9,870,000
91%	21,385,000	41%	9,635,000
90%	21,150,000	40%	9,400,000
89%	20,915,000	39%	9,165,000
88%	20,680,000	38%	8,930,000
87%	20,445,000	37%	8,695,000
86%	20,210,000	36%	8,460,000
85%	19,975,000	35%	8,225,000
84%	19,740,000	34%	7,990,000
83%	19,505,000	33%	7,755,000
82%	19,270,000	32%	7,520,000
81%	19,035,000	31%	7,285,000
80%	18,800,000	30%	7,050,000
79%	18,565,000	29%	6,815,000
78%	18,330,000	28%	6,580,000
77%	18,095,000	27%	6,345,000
76%	17,860,000	26%	6,110,000
75%	17,625,000	25%	5,875,000
74%	17,390,000	24%	5,640,000
73%	17,155,000	23%	5,405,000
72%	16,920,000	22%	5,170,000
71%	16,685,000	21%	4,935,000
70%	16,450,000	20%	4,700,000
69%	16,215,000	19%	4,465,000
68%	15,980,000	18%	4,230,000
67%	15,745,000	17%	3,995,000
66%	15,510,000	16%	3,760,000
65%	15,275,000	15%	3,525,000
64%	15,040,000	14%	3,290,000
63%	14,805,000	13%	3,055,000
62%	14,570,000	12%	2,820,000
61%	14,335,000	11%	2,585,000
60%	14,100,000	10%	2,350,000
59%	13,865,000	9%	2,115,000
58%	13,630,000	8%	1,880,000
57%	13,395,000	7%	1,645,000
56%	13,160,000	6%	1,410,000
55%	12,925,000	5%	1,175,000
54%	12,690,000	4%	940,000
53%	12,455,000	3%	705,000
52%	12,220,000	2%	470,000
51%	11,985,000	1%	235,000

FIG.17A

standard price 8,600
buy price 7,750,000
buy unit-cost 8,340

	1	2	3	4	5	6	7	8	9	10	11	12
No	stock price	ADR	advance-decline depth	buy quantity	actual buy price	commission	commission rate	break-even point	break-even difference	earning rate	profit and loss depth	total profit and loss
1	9,890	15.00%	1,290	784	7,753,760	15,508	0.20%	9,959	69.23	18.59%	1,550	1,215,200
2	9,891	15.01%	1,291	784	7,754,544	15,509	0.20%	9,960	69.24	18.60%	1,551	1,215,984
3	9,870	14.77%	1,270	785	7,747,950	15,496	0.20%	9,939	69.09	18.35%	1,530	1,201,050
4	9,860	14.65%	1,260	786	7,749,960	15,500	0.20%	9,929	69.02	18.23%	1,520	1,194,720
5	9,850	14.53%	1,250	787	7,751,950	15,504	0.20%	9,919	68.95	18.11%	1,510	1,188,370
6	9,840	14.42%	1,240	788	7,753,920	15,508	0.20%	9,909	68.88	17.99%	1,500	1,182,000
7	9,830	14.30%	1,230	788	7,746,040	15,492	0.20%	9,899	68.81	17.87%	1,490	1,174,120
8	9,820	14.19%	1,220	789	7,747,980	15,496	0.20%	9,889	68.74	17.75%	1,480	1,167,720
9	9,810	14.07%	1,210	790	7,749,900	15,500	0.20%	9,879	68.67	17.63%	1,470	1,161,300
10	9,800	13.95%	1,200	791	7,751,800	15,504	0.20%	9,869	68.60	17.51%	1,460	1,154,860
11	9,790	13.84%	1,190	792	7,753,680	15,507	0.20%	9,859	68.53	17.39%	1,450	1,148,400
12	9,780	13.72%	1,180	792	7,745,760	15,492	0.20%	9,848	68.46	17.27%	1,440	1,140,480
13	9,770	13.60%	1,170	793	7,747,610	15,495	0.20%	9,838	68.39	17.15%	1,430	1,133,990
14	9,760	13.49%	1,160	794	7,749,440	15,499	0.20%	9,828	68.32	17.03%	1,420	1,127,480
15	9,750	13.37%	1,150	795	7,751,250	15,503	0.20%	9,818	68.25	16.91%	1,410	1,120,950
16	9,740	13.26%	1,140	796	7,753,040	15,506	0.20%	9,808	68.18	16.79%	1,400	1,114,400
17	9,730	13.14%	1,130	797	7,754,810	15,510	0.20%	9,798	68.11	16.67%	1,390	1,107,830
18	9,720	13.02%	1,120	797	7,746,840	15,494	0.20%	9,788	68.04	16.55%	1,380	1,099,860
19	9,710	12.91%	1,110	798	7,748,580	15,497	0.20%	9,778	67.97	16.43%	1,370	1,093,260
20	9,700	12.79%	1,100	799	7,750,300	15,501	0.20%	9,768	67.90	16.31%	1,360	1,086,640
21	9,690	12.67%	1,090	800	7,752,000	15,504	0.20%	9,758	67.83	16.19%	1,350	1,080,000
22	9,680	12.56%	1,080	801	7,753,680	15,507	0.20%	9,748	67.76	16.07%	1,340	1,073,340
23	9,670	12.44%	1,070	801	7,745,670	15,491	0.20%	9,738	67.69	15.95%	1,330	1,065,330
24	9,660	12.33%	1,060	802	7,747,320	15,495	0.20%	9,728	67.62	15.83%	1,320	1,058,640
25	9,650	12.21%	1,050	803	7,748,950	15,498	0.20%	9,718	67.55	15.71%	1,310	1,051,930
26	9,640	12.09%	1,040	804	7,750,560	15,501	0.20%	9,707	67.48	15.59%	1,300	1,045,200
27	9,630	11.98%	1,030	805	7,752,150	15,504	0.20%	9,697	67.41	15.47%	1,290	1,038,450
28	9,620	11.86%	1,020	806	7,753,720	15,507	0.20%	9,687	67.34	15.35%	1,280	1,031,680
29	9,610	11.74%	1,010	806	7,745,660	15,491	0.20%	9,677	67.27	15.23%	1,270	1,023,620
30	9,600	11.63%	1,000	807	7,747,200	15,494	0.20%	9,667	67.20	15.11%	1,260	1,016,820
31	9,590	11.51%	990	808	7,748,720	15,497	0.20%	9,657	67.13	14.99%	1,250	1,010,000
32	9,580	11.40%	980	809	7,750,220	15,500	0.20%	9,647	67.06	14.87%	1,240	1,003,160
33	9,570	11.28%	970	810	7,751,700	15,503	0.20%	9,637	66.99	14.75%	1,230	996,300
34	9,560	11.16%	960	811	7,753,160	15,506	0.20%	9,627	66.92	14.63%	1,220	989,420
35	9,550	11.05%	950	812	7,754,600	15,509	0.20%	9,617	66.85	14.51%	1,210	982,520

FIG.17B

No	stock price	ADR	advance-decline depth	buy quantity	actual buy price	commission	commission rate	break-even point	break-even difference	earning rate	profit and loss depth	total profit and loss
36	9,540	10.93%	940	812	7,746,480	15,493	0.20%	9,607	66.78	14.39%	1,200	974,400
37	9,530	10.81%	930	813	7,747,890	15,496	0.20%	9,597	66.71	14.27%	1,190	967,470
38	9,520	10.70%	920	814	7,749,280	15,499	0.20%	9,587	66.64	14.15%	1,180	960,520
39	9,510	10.58%	910	815	7,750,650	15,501	0.20%	9,577	66.57	14.03%	1,170	953,550
40	9,500	10.47%	900	816	7,752,000	15,504	0.20%	9,567	66.50	13.91%	1,160	946,560
41	9,490	10.35%	890	817	7,753,330	15,507	0.20%	9,556	66.43	13.79%	1,150	939,550
42	9,480	10.23%	880	818	7,754,640	15,509	0.20%	9,546	66.36	13.67%	1,140	932,520
43	9,470	10.12%	870	818	7,746,460	15,493	0.20%	9,536	66.29	13.55%	1,130	924,340
44	9,460	10.00%	860	819	7,747,740	15,495	0.20%	9,526	66.22	13.43%	1,120	917,280
45	9,450	9.88%	850	820	7,749,000	15,498	0.20%	9,516	66.15	13.31%	1,110	910,200
46	9,440	9.77%	840	821	7,750,240	15,500	0.20%	9,506	66.08	13.19%	1,100	903,100
47	9,430	9.65%	830	822	7,751,460	15,503	0.20%	9,496	66.01	13.07%	1,090	895,980
48	9,420	9.53%	820	823	7,752,660	15,505	0.20%	9,486	65.94	12.95%	1,080	888,840
49	9,410	9.42%	810	824	7,753,840	15,508	0.20%	9,476	65.87	12.83%	1,070	881,680
50	9,400	9.30%	800	825	7,755,000	15,510	0.20%	9,466	65.80	12.71%	1,060	874,500
51	9,390	9.19%	790	825	7,746,750	15,494	0.20%	9,456	65.73	12.59%	1,050	866,250
52	9,380	9.07%	780	826	7,747,880	15,498	0.20%	9,446	65.66	12.47%	1,040	859,040
53	9,370	8.95%	770	827	7,748,990	15,498	0.20%	9,436	65.59	12.35%	1,030	851,810
54	9,360	8.84%	760	828	7,750,080	15,500	0.20%	9,426	65.52	12.23%	1,020	844,560
55	9,350	8.72%	750	829	7,751,150	15,502	0.20%	9,415	65.45	12.11%	1,010	837,290
56	9,340	8.60%	740	830	7,752,200	15,504	0.20%	9,405	65.38	11.99%	1,000	830,000
57	9,330	8.49%	730	831	7,753,230	15,506	0.20%	9,395	65.31	11.87%	990	822,690
58	9,320	8.37%	720	832	7,754,240	15,508	0.20%	9,385	65.24	11.75%	980	815,360
59	9,310	8.26%	710	832	7,745,920	15,492	0.20%	9,375	65.17	11.63%	970	807,040
60	9,300	8.14%	700	833	7,746,900	15,494	0.20%	9,365	65.10	11.51%	960	799,680
61	9,290	8.02%	690	834	7,747,860	15,496	0.20%	9,355	65.03	11.39%	950	792,300
62	9,280	7.91%	680	835	7,748,800	15,498	0.20%	9,345	64.96	11.27%	940	784,900
63	9,270	7.79%	670	836	7,749,720	15,499	0.20%	9,335	64.89	11.15%	930	777,480
64	9,260	7.67%	660	837	7,750,620	15,501	0.20%	9,325	64.82	11.03%	920	770,040
65	9,250	7.56%	650	838	7,751,500	15,503	0.20%	9,315	64.75	10.91%	910	762,580
66	9,240	7.44%	640	839	7,752,360	15,505	0.20%	9,305	64.68	10.79%	900	755,100
67	9,230	7.33%	630	840	7,753,200	15,506	0.20%	9,295	64.61	10.67%	890	747,600
68	9,220	7.21%	620	841	7,754,020	15,508	0.20%	9,285	64.54	10.55%	880	740,080
69	9,210	7.09%	610	842	7,754,820	15,510	0.20%	9,274	64.47	10.43%	870	732,540
70	9,200	6.98%	600	842	7,746,400	15,493	0.20%	9,264	64.40	10.31%	860	724,120
71	9,190	6.86%	590	843	7,747,170	15,494	0.20%	9,254	64.33	10.19%	850	716,550
72	9,180	6.74%	580	844	7,747,920	15,496	0.20%	9,244	64.26	10.07%	840	708,960
73	9,170	6.63%	570	845	7,748,650	15,497	0.20%	9,234	64.19	9.95%	830	701,350
74	9,160	6.51%	560	846	7,749,360	15,499	0.20%	9,224	64.12	9.83%	820	693,720
75	9,150	6.40%	550	847	7,750,050	15,500	0.20%	9,214	64.05	9.71%	810	686,070

FIG.17C

No	stock price	ADR	advance-decline depth	buy quantity	actual buy price	commission	commission rate	break-even point	break-even difference	earning rate	profit and loss depth	total profit and loss
76	9,140	6.28%	540	848	7,750,720	15,501	0.20%	9,204	63.98	9.59%	800	678,400
77	9,130	6.16%	530	849	7,751,370	15,503	0.20%	9,194	63.91	9.47%	790	670,710
78	9,120	6.05%	520	850	7,752,000	15,504	0.20%	9,184	63.84	9.35%	780	663,000
79	9,110	5.93%	510	851	7,752,610	15,505	0.20%	9,174	63.77	9.23%	770	655,270
80	9,100	5.81%	500	852	7,753,200	15,506	0.20%	9,164	63.70	9.11%	760	647,520
81	9,090	5.70%	490	853	7,753,770	15,508	0.20%	9,154	63.63	8.99%	750	639,750
82	9,080	5.58%	480	854	7,754,320	15,509	0.20%	9,144	63.56	8.87%	740	631,960
83	9,070	5.47%	470	855	7,754,850	15,510	0.20%	9,133	63.49	8.75%	730	624,150
84	9,060	5.35%	460	855	7,746,300	15,493	0.20%	9,123	63.42	8.63%	720	615,600
85	9,050	5.23%	450	856	7,746,800	15,494	0.20%	9,113	63.35	8.51%	710	607,760
86	9,040	5.12%	440	857	7,747,280	15,495	0.20%	9,103	63.28	8.39%	700	599,900
87	9,030	5.00%	430	858	7,747,740	15,495	0.20%	9,093	63.21	8.27%	690	592,020
88	9,020	4.88%	420	859	7,748,180	15,496	0.20%	9,083	63.14	8.15%	680	584,120
89	9,010	4.77%	410	860	7,748,600	15,497	0.20%	9,073	63.07	8.03%	670	576,200
90	9,000	4.65%	400	861	7,749,000	15,498	0.20%	9,063	63.00	7.91%	660	568,260
91	8,990	4.53%	390	862	7,749,380	15,499	0.20%	9,053	62.93	7.79%	650	560,300
92	8,980	4.42%	380	863	7,749,740	15,499	0.20%	9,043	62.86	7.67%	640	552,320
93	8,970	4.30%	370	864	7,750,080	15,500	0.20%	9,033	62.79	7.55%	630	544,320
94	8,960	4.19%	360	865	7,750,400	15,501	0.20%	9,023	62.72	7.43%	620	536,300
95	8,950	4.07%	350	866	7,750,700	15,501	0.20%	9,013	62.65	7.31%	610	528,260
96	8,940	3.95%	340	867	7,750,980	15,502	0.20%	9,003	62.58	7.19%	600	520,200
97	8,930	3.84%	330	868	7,751,240	15,502	0.20%	8,993	62.51	7.07%	590	512,120
98	8,920	3.72%	320	869	7,751,480	15,503	0.20%	8,982	62.44	6.95%	580	504,020
99	8,910	3.60%	310	870	7,751,700	15,503	0.20%	8,972	62.37	6.83%	570	495,900
100	8,900	3.49%	300	871	7,751,900	15,504	0.20%	8,962	62.30	6.71%	560	487,760
101	8,890	3.37%	290	872	7,752,080	15,504	0.20%	8,952	62.23	6.59%	550	479,600
102	8,880	3.26%	280	873	7,752,240	15,504	0.20%	8,942	62.16	6.47%	540	471,420
103	8,870	3.14%	270	874	7,752,380	15,505	0.20%	8,932	62.09	6.35%	530	463,220
104	8,860	3.02%	260	875	7,752,500	15,505	0.20%	8,922	62.02	6.24%	520	455,000
105	8,850	2.91%	250	876	7,752,600	15,505	0.20%	8,912	61.95	6.12%	510	446,760
106	8,840	2.79%	240	877	7,752,680	15,505	0.20%	8,902	61.88	6.00%	500	438,500
107	8,830	2.67%	230	878	7,752,740	15,505	0.20%	8,892	61.81	5.88%	490	430,220
108	8,820	2.56%	220	879	7,752,780	15,506	0.20%	8,882	61.74	5.76%	480	421,920
109	8,810	2.44%	210	880	7,752,800	15,506	0.20%	8,872	61.67	5.64%	470	413,600
110	8,800	2.33%	200	881	7,752,800	15,506	0.20%	8,862	61.60	5.52%	460	405,260
111	8,790	2.21%	190	882	7,752,780	15,506	0.20%	8,852	61.53	5.40%	450	396,900
112	8,780	2.09%	180	883	7,752,740	15,505	0.20%	8,841	61.46	5.28%	440	388,520
113	8,770	1.98%	170	884	7,752,680	15,505	0.20%	8,831	61.39	5.16%	430	380,120
114	8,760	1.86%	160	885	7,752,600	15,505	0.20%	8,821	61.32	5.04%	420	371,700
115	8,750	1.74%	150	886	7,752,500	15,505	0.20%	8,811	61.25	4.92%	410	363,260

FIG.17D

No	stock price	ADR	advance-decline depth	buy quantity	actual buy price	commission	commission rate	break-even point	break-even difference	earning rate	profit and loss depth	total profit and loss
116	8,740	1.63%	140	887	7,752,380	15,505	0.20%	8,801	61.18	4.80%	400	354,800
117	8,730	1.51%	130	888	7,752,240	15,504	0.20%	8,791	61.11	4.68%	390	346,320
118	8,720	1.40%	120	889	7,752,080	15,504	0.20%	8,781	61.04	4.56%	380	337,820
119	8,710	1.28%	110	890	7,751,900	15,504	0.20%	8,771	60.97	4.44%	370	329,300
120	8,700	1.16%	100	891	7,751,700	15,503	0.20%	8,761	60.90	4.32%	360	320,760
121	8,690	1.05%	90	892	7,751,480	15,503	0.20%	8,751	60.83	4.20%	350	312,200
122	8,680	0.93%	80	893	7,751,240	15,502	0.20%	8,741	60.76	4.08%	340	303,620
123	8,670	0.81%	70	894	7,750,980	15,502	0.20%	8,731	60.69	3.96%	330	295,020
124	8,660	0.70%	60	895	7,750,700	15,501	0.20%	8,721	60.62	3.84%	320	286,400
125	8,650	0.58%	50	896	7,750,400	15,501	0.20%	8,711	60.55	3.72%	310	277,760
126	8,640	0.47%	40	897	7,750,080	15,500	0.20%	8,700	60.48	3.60%	300	269,100
127	8,630	0.35%	30	898	7,749,740	15,499	0.20%	8,690	60.41	3.48%	290	260,420
128	8,620	0.23%	20	899	7,749,380	15,499	0.20%	8,680	60.34	3.36%	280	251,720
129	8,610	0.12%	10	900	7,749,000	15,498	0.20%	8,670	60.27	3.24%	270	243,000
130	8,600	0.00%	0	901	7,748,600	15,497	0.20%	8,660	60.20	3.12%	260	234,260
131	8,590	-0.12%	-10	902	7,748,180	15,496	0.20%	8,650	60.13	3.00%	250	225,500
132	8,580	-0.23%	-20	903	7,747,740	15,495	0.20%	8,640	60.06	2.88%	240	216,720
133	8,570	-0.35%	-30	904	7,747,280	15,495	0.20%	8,630	59.99	2.76%	230	207,920
134	8,560	-0.47%	-40	905	7,746,800	15,494	0.20%	8,620	59.92	2.64%	220	199,100
135	8,550	-0.58%	-50	907	7,754,850	15,510	0.20%	8,610	59.85	2.52%	210	190,470
136	8,540	-0.70%	-60	908	7,754,320	15,509	0.20%	8,600	59.78	2.40%	200	181,800
137	8,530	-0.81%	-70	909	7,753,770	15,508	0.20%	8,590	59.71	2.28%	190	172,710
138	8,520	-0.93%	-80	910	7,753,200	15,506	0.20%	8,580	59.64	2.16%	180	163,800
139	8,510	-1.05%	-90	911	7,752,610	15,505	0.20%	8,570	59.57	2.04%	170	154,870
140	8,500	-1.16%	-100	912	7,752,000	15,504	0.20%	8,560	59.50	1.92%	160	145,920
141	8,490	-1.28%	-110	913	7,751,370	15,503	0.20%	8,549	59.43	1.80%	150	136,950
142	8,480	-1.40%	-120	914	7,750,720	15,501	0.20%	8,539	59.36	1.68%	140	127,960
143	8,470	-1.51%	-130	915	7,750,050	15,500	0.20%	8,529	59.29	1.56%	130	118,950
144	8,460	-1.63%	-140	916	7,749,360	15,499	0.20%	8,519	59.22	1.44%	120	109,920
145	8,450	-1.74%	-150	917	7,748,650	15,497	0.20%	8,509	59.15	1.32%	110	100,870
146	8,440	-1.86%	-160	918	7,747,920	15,496	0.20%	8,499	59.08	1.20%	100	91,800
147	8,430	-1.98%	-170	919	7,747,170	15,494	0.20%	8,489	59.01	1.08%	90	82,710
148	8,420	-2.09%	-180	921	7,754,820	15,510	0.20%	8,479	58.94	0.96%	80	73,680
149	8,410	-2.21%	-190	922	7,754,020	15,508	0.20%	8,469	58.87	0.84%	70	64,540
150	8,400	-2.33%	-200	923	7,753,200	15,506	0.20%	8,459	58.80	0.72%	60	55,380
151	8,390	-2.44%	-210	924	7,752,360	15,505	0.20%	8,449	58.73	0.60%	50	46,200
152	8,380	-2.56%	-220	925	7,751,500	15,503	0.20%	8,439	58.66	0.48%	40	37,000
153	8,370	-2.67%	-230	926	7,750,620	15,501	0.20%	8,429	58.59	0.36%	30	27,780
154	8,360	-2.79%	-240	927	7,749,720	15,499	0.20%	8,419	58.52	0.24%	20	18,540
155	8,350	-2.91%	-250	928	7,748,800	15,498	0.20%	8,408	58.45	0.12%	10	9,280

FIG.17E

No	stock price	ADR	advance-decline depth	buy quantity	actual buy price	commission	commission rate	break-even point	break-even difference	earning rate	profit and loss depth	total profit and loss
156	8,340	-3.02%	-280	929	7,747,860	15,495	0.20%	8,398	58.38	0.00%	0	0
157	8,330	-3.14%	-270	930	7,746,900	15,494	0.20%	8,388	58.31	-0.12%	-10	-8,300
158	8,320	-3.26%	-280	932	7,754,240	15,508	0.20%	8,378	58.24	-0.24%	-20	-18,640
159	8,310	-3.37%	-290	933	7,753,230	15,506	0.20%	8,368	58.17	-0.36%	-30	-27,990
160	8,300	-3.49%	-300	934	7,752,200	15,504	0.20%	8,358	58.10	-0.48%	-40	-37,360
161	8,290	-3.60%	-310	935	7,751,150	15,502	0.20%	8,348	58.03	-0.60%	-50	-46,750
162	8,280	-3.72%	-320	936	7,750,080	15,500	0.20%	8,338	57.96	-0.72%	-60	-56,160
163	8,270	-3.84%	-330	937	7,748,990	15,498	0.20%	8,328	57.89	-0.84%	-70	-65,590
164	8,260	-3.95%	-340	938	7,747,880	15,498	0.20%	8,318	57.82	-0.96%	-80	-75,040
165	8,250	-4.07%	-350	940	7,755,000	15,510	0.20%	8,308	57.75	-1.08%	-90	-84,600
166	8,240	-4.19%	-360	941	7,753,840	15,508	0.20%	8,298	57.68	-1.20%	-100	-94,100
167	8,230	-4.30%	-370	942	7,752,660	15,505	0.20%	8,288	57.61	-1.32%	-110	-103,620
168	8,220	-4.42%	-380	943	7,751,460	15,503	0.20%	8,278	57.54	-1.44%	-120	-113,160
169	8,210	-4.53%	-390	944	7,750,240	15,500	0.20%	8,267	57.47	-1.56%	-130	-122,720
170	8,200	-4.65%	-400	945	7,749,000	15,498	0.20%	8,257	57.40	-1.68%	-140	-132,300
171	8,190	-4.77%	-410	946	7,747,740	15,495	0.20%	8,247	57.33	-1.80%	-150	-141,900
172	8,180	-4.88%	-420	948	7,754,640	15,509	0.20%	8,237	57.26	-1.92%	-160	-151,680
173	8,170	-5.00%	-430	949	7,753,330	15,507	0.20%	8,227	57.19	-2.04%	-170	-161,330
174	8,160	-5.12%	-440	950	7,752,000	15,504	0.20%	8,217	57.12	-2.16%	-180	-171,000
175	8,150	-5.23%	-450	951	7,750,650	15,501	0.20%	8,207	57.05	-2.28%	-190	-180,690
176	8,140	-5.35%	-460	952	7,749,280	15,499	0.20%	8,197	56.98	-2.40%	-200	-190,400
177	8,130	-5.47%	-470	953	7,747,890	15,496	0.20%	8,187	56.91	-2.52%	-210	-200,130
178	8,120	-5.58%	-480	955	7,754,600	15,509	0.20%	8,177	56.84	-2.64%	-220	-210,100
179	8,110	-5.70%	-490	956	7,753,160	15,506	0.20%	8,167	56.77	-2.76%	-230	-219,880
180	8,100	-5.81%	-500	957	7,751,700	15,503	0.20%	8,157	56.70	-2.88%	-240	-229,680
181	8,090	-5.93%	-510	958	7,750,220	15,500	0.20%	8,147	56.63	-3.00%	-250	-239,500
182	8,080	-6.05%	-520	959	7,748,720	15,497	0.20%	8,137	56.56	-3.12%	-260	-249,340
183	8,070	-6.16%	-530	960	7,747,200	15,494	0.20%	8,126	56.49	-3.24%	-270	-259,200
184	8,060	-6.28%	-540	962	7,753,720	15,507	0.20%	8,116	56.42	-3.36%	-280	-269,360
185	8,050	-6.40%	-550	963	7,752,150	15,504	0.20%	8,106	56.35	-3.48%	-290	-279,270
186	8,040	-6.51%	-560	964	7,750,560	15,501	0.20%	8,096	56.28	-3.60%	-300	-289,200
187	8,030	-6.63%	-570	965	7,748,950	15,498	0.20%	8,086	56.21	-3.72%	-310	-299,150
188	8,020	-6.74%	-580	966	7,747,320	15,495	0.20%	8,076	56.14	-3.84%	-320	-309,120
189	8,010	-6.86%	-590	968	7,753,680	15,507	0.20%	8,066	56.07	-3.96%	-330	-319,440
190	8,000	-6.98%	-600	969	7,752,000	15,504	0.20%	8,056	56.00	-4.08%	-340	-329,460
191	7,990	-7.09%	-610	970	7,750,300	15,501	0.20%	8,046	55.93	-4.20%	-350	-339,500
192	7,980	-7.21%	-620	971	7,748,580	15,497	0.20%	8,036	55.86	-4.32%	-360	-349,560
193	7,970	-7.33%	-630	972	7,746,840	15,494	0.20%	8,026	55.79	-4.44%	-370	-359,640
194	7,960	-7.44%	-640	974	7,753,040	15,506	0.20%	8,016	55.72	-4.56%	-380	-370,120
195	7,950	-7.56%	-650	975	7,751,250	15,503	0.20%	8,006	55.65	-4.68%	-390	-380,250

FIG.17F

No	stock price	ADR	advance-decline depth	buy quantity	actual buy price	commission	commission rate	break-even point	break-even difference	earning rate	profit and loss depth	total profit and loss
196	7,940	-7.67%	-660	976	7,749,440	15,499	0.20%	7,996	55.58	-4.80%	-400	-390,400
197	7,930	-7.78%	-670	977	7,747,610	15,495	0.20%	7,986	55.51	-4.92%	-410	-400,570
198	7,920	-7.91%	-680	979	7,753,680	15,507	0.20%	7,975	55.44	-5.04%	-420	-411,180
199	7,910	-8.02%	-690	980	7,751,800	15,504	0.20%	7,965	55.37	-5.16%	-430	-421,400
200	7,900	-8.14%	-700	981	7,749,900	15,500	0.20%	7,955	55.30	-5.28%	-440	-431,640
201	7,890	-8.26%	-710	982	7,747,980	15,496	0.20%	7,945	55.23	-5.40%	-450	-441,900
202	7,880	-8.37%	-720	984	7,753,920	15,508	0.20%	7,935	55.16	-5.52%	-460	-452,640
203	7,870	-8.49%	-730	985	7,751,950	15,504	0.20%	7,925	55.09	-5.64%	-470	-462,950
204	7,860	-8.60%	-740	986	7,749,960	15,500	0.20%	7,915	55.02	-5.76%	-480	-473,280
205	7,850	-8.72%	-750	987	7,747,950	15,496	0.20%	7,905	54.95	-5.88%	-490	-483,630
206	7,840	-8.84%	-760	988	7,753,760	15,508	0.20%	7,895	54.88	-6.00%	-500	-494,500
207	7,830	-8.95%	-770	990	7,751,700	15,503	0.20%	7,885	54.81	-6.12%	-510	-504,900
208	7,820	-9.07%	-780	991	7,749,620	15,499	0.20%	7,875	54.74	-6.24%	-520	-515,320
209	7,810	-9.19%	-790	992	7,747,520	15,495	0.20%	7,865	54.67	-6.35%	-530	-525,760
210	7,800	-9.30%	-800	994	7,753,200	15,506	0.20%	7,855	54.60	-6.47%	-540	-538,760
211	7,790	-9.42%	-810	995	7,751,050	15,502	0.20%	7,845	54.53	-6.59%	-550	-547,250
212	7,780	-9.53%	-820	996	7,748,880	15,498	0.20%	7,834	54.46	-6.71%	-560	-557,760
213	7,770	-9.65%	-830	998	7,754,460	15,509	0.20%	7,824	54.39	-6.83%	-570	-568,860
214	7,760	-9.77%	-840	999	7,752,240	15,504	0.20%	7,814	54.32	-6.95%	-580	-579,420
215	7,750	-9.88%	-850	1,000	7,750,000	15,500	0.20%	7,804	54.25	-7.07%	-590	-590,000
216	7,740	-10.00%	-860	1,001	7,747,740	15,495	0.20%	7,794	54.18	-7.19%	-600	-600,600
217	7,730	-10.12%	-870	1,003	7,753,190	15,506	0.20%	7,784	54.11	-7.31%	-610	-611,830
218	7,720	-10.23%	-880	1,004	7,750,880	15,502	0.20%	7,774	54.04	-7.43%	-620	-622,480
219	7,710	-10.35%	-890	1,005	7,748,550	15,497	0.20%	7,764	53.97	-7.55%	-630	-633,150
220	7,700	-10.47%	-900	1,007	7,753,900	15,508	0.20%	7,754	53.90	-7.67%	-640	-644,480
221	7,690	-10.58%	-910	1,008	7,751,520	15,503	0.20%	7,744	53.83	-7.79%	-650	-655,200
222	7,680	-10.70%	-920	1,009	7,749,120	15,498	0.20%	7,734	53.76	-7.91%	-660	-665,940
223	7,670	-10.81%	-930	1,011	7,754,370	15,509	0.20%	7,724	53.69	-8.03%	-670	-677,370
224	7,660	-10.93%	-940	1,012	7,751,920	15,504	0.20%	7,714	53.62	-8.15%	-680	-688,160
225	7,650	-11.05%	-950	1,013	7,749,450	15,499	0.20%	7,704	53.55	-8.27%	-690	-698,970
226	7,640	-11.16%	-960	1,015	7,754,600	15,509	0.20%	7,693	53.48	-8.39%	-700	-710,500
227	7,630	-11.28%	-970	1,016	7,752,080	15,504	0.20%	7,683	53.41	-8.51%	-710	-721,360
228	7,620	-11.40%	-980	1,017	7,749,540	15,499	0.20%	7,673	53.34	-8.63%	-720	-732,240
229	7,610	-11.51%	-990	1,019	7,754,590	15,509	0.20%	7,663	53.27	-8.75%	-730	-743,870
230	7,600	-11.63%	-1,000	1,020	7,752,000	15,504	0.20%	7,653	53.20	-8.87%	-740	-754,800
231	7,590	-11.74%	-1,010	1,021	7,749,390	15,499	0.20%	7,643	53.13	-8.99%	-750	-765,750
232	7,580	-11.86%	-1,020	1,023	7,754,340	15,509	0.20%	7,633	53.06	-9.11%	-760	-777,480
233	7,570	-11.98%	-1,030	1,024	7,751,680	15,503	0.20%	7,623	52.99	-9.23%	-770	-788,480
234	7,560	-12.09%	-1,040	1,025	7,749,000	15,498	0.20%	7,613	52.92	-9.35%	-780	-799,500
235	7,550	-12.21%	-1,050	1,027	7,753,850	15,508	0.20%	7,603	52.85	-9.47%	-790	-811,330

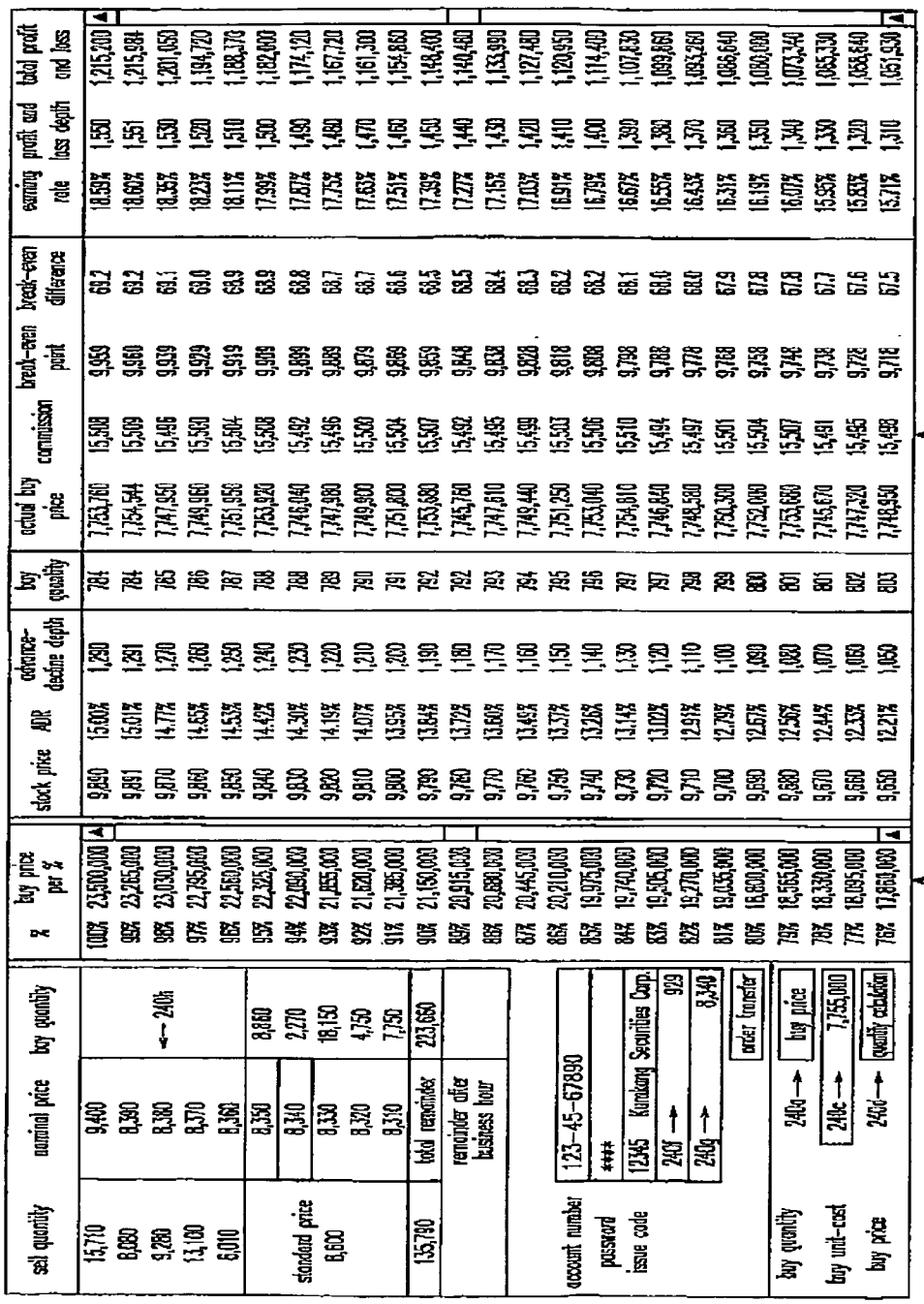
WO 02/071297

PCT/KR02/00406

FIG.17G

No	stock price	ADR	advance-decline depth	buy quantity	actual buy price	commission	commission rate	break-even point	break-even difference	earning rate	profit and loss depth	total profit and loss
236	7,540	-12.33%	-1,060	1,028	7,751,120	15,502	0.20%	7,593	52.78	-9.59%	-800	-822,400
237	7,530	-12.44%	-1,070	1,029	7,748,370	15,497	0.20%	7,583	52.71	-9.71%	-810	-833,490
238	7,520	-12.56%	-1,080	1,031	7,753,120	15,506	0.20%	7,573	52.64	-9.83%	-820	-845,420
239	7,510	-12.67%	-1,090	1,032	7,750,320	15,501	0.20%	7,563	52.57	-9.95%	-830	-856,560
240	7,500	-12.79%	-1,100	1,034	7,755,000	15,510	0.20%	7,553	52.50	-10.07%	-840	-868,560
241	7,490	-12.91%	-1,110	1,035	7,752,150	15,504	0.20%	7,542	52.43	-10.19%	-850	-879,750
242	7,480	-13.02%	-1,120	1,036	7,749,280	15,499	0.20%	7,532	52.36	-10.31%	-860	-890,960
243	7,470	-13.14%	-1,130	1,038	7,753,860	15,508	0.20%	7,522	52.29	-10.43%	-870	-903,060
244	7,460	-13.26%	-1,140	1,039	7,750,940	15,502	0.20%	7,512	52.22	-10.55%	-880	-914,320
245	7,450	-13.37%	-1,150	1,040	7,748,000	15,496	0.20%	7,502	52.15	-10.67%	-890	-925,600
246	7,440	-13.49%	-1,160	1,042	7,752,480	15,505	0.20%	7,492	52.08	-10.79%	-900	-937,800
247	7,430	-13.60%	-1,170	1,043	7,749,490	15,499	0.20%	7,482	52.01	-10.91%	-910	-949,130
248	7,420	-13.72%	-1,180	1,045	7,753,900	15,508	0.20%	7,472	51.94	-11.03%	-920	-961,400
249	7,410	-13.84%	-1,190	1,046	7,750,860	15,502	0.20%	7,462	51.87	-11.15%	-930	-972,780
250	7,400	-13.95%	-1,200	1,047	7,747,800	15,496	0.20%	7,452	51.80	-11.27%	-940	-984,180
251	7,390	-14.07%	-1,210	1,049	7,752,110	15,504	0.20%	7,442	51.73	-11.39%	-950	-996,550
252	7,380	-14.19%	-1,220	1,050	7,749,000	15,498	0.20%	7,432	51.66	-11.51%	-960	-1,008,000
253	7,370	-14.30%	-1,230	1,052	7,753,240	15,506	0.20%	7,422	51.59	-11.63%	-970	-1,020,440
254	7,360	-14.42%	-1,240	1,053	7,750,080	15,500	0.20%	7,412	51.52	-11.75%	-980	-1,031,940
255	7,350	-14.53%	-1,250	1,055	7,754,250	15,509	0.20%	7,401	51.45	-11.87%	-990	-1,044,450
256	7,340	-14.65%	-1,260	1,056	7,751,040	15,502	0.20%	7,391	51.38	-11.99%	-1,000	-1,056,000
257	7,330	-14.77%	-1,270	1,057	7,747,810	15,496	0.20%	7,381	51.31	-12.11%	-1,010	-1,067,570
258	7,320	-14.88%	-1,280	1,059	7,751,880	15,504	0.20%	7,371	51.24	-12.23%	-1,020	-1,080,180
259	7,310	-15.00%	-1,290	1,060	7,748,600	15,497	0.20%	7,361	51.17	-12.35%	-1,030	-1,091,800

FIG.18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buy quantity
buy price per #
%
stock price
ADR
advance-decline depth
buy quantity
actual buy price
commission
break-even point
break-even difference
earning rate
profit and loss depth
total profit and loss
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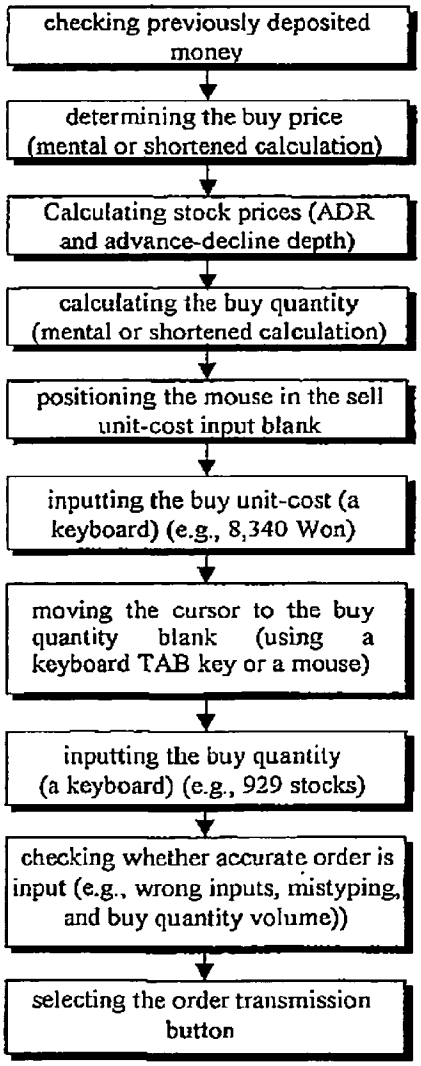
240b
240e

FIG.19

Comparison of buy order process

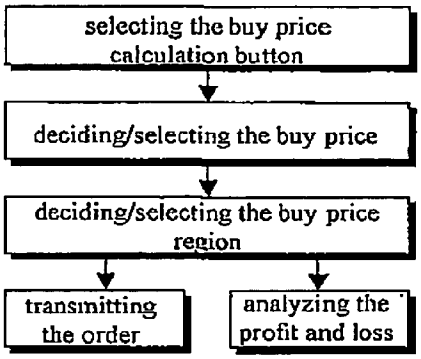
Conventional method

- time required: more than 15secs. (except detailed calculation)
- manual operation/eye operation: more than 10 times/more than 4 times
- input error checking: requiring precise checking



Remedy according to present invention

- time required: 1 to 2 secs.
- manual operation/eye operation required for order inputting: once/once
- input error checking: not necessary



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 02/00406

CLASSIFICATION OF SUBJECT MATTER

IPC[7]: G06F 17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC[7]: G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

wpi paj

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6078904 A (Rebane) 20 June 2000 (20.06.00) *the whole document.*	1-16
A	WO 97/0441 (Citibank) February 1997 (06.02.97) *the whole document.*	1-16
A	DE 10028238 A1 (IBM) 22 February 2001 (22.02.01) *the whole document.*	1,2,8,9,11,13

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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„O" document referring to an oral disclosure, use, exhibition or other means
„P" document published prior to the international filing date but later than the priority date claimed

„T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
„X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
„Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
„&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
30 April 2002 (30.04.2002)	25 June 2002 (25.06.2002)
Name and mailing adress of the ISA/AT Austrian Patent Office Kohlmarkt 8-10; A-1014 Vienna Facsimile No. 1/53424/535	Authorized officer WERNER Telephone No. 1/53424/357

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/KR 02/00406-0

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE A1 10028238	22-02-2001	CN A 1276672 JP A2 01034679	13-12-2000 09-02-2001
US A 6078904	20-06-2000	none	
WO A 970441		none	